ABSTRACT OF

A Clinical Lecture

ON

A CASE OF LINGUAL GOITRE.

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CASES of lingual goitre are of by no means frequent occurrence judging by the fact that in the various collations of published cases which have been made not more than between 30 and 40 instances are recorded. It may therefore be useful to utilise the present occasion by a short review of the condition founded on the instance now before us.

The patient, a female, 31 years of age, had spent most of her life in London but was resident in Windsor when she was admitted to hospital. She had lost one sister from "consumption," while another was delicate and was thought to be "consumptive," but the other members of her family were healthy and none of them had been the subjects of goitre. Three weeks previously to admission the patient had noticed a sense of difficulty in swallowing and on looking into her throat she observed a swelling. She was seen shortly afterwards and was advised to go to St. Thomas's Hospital as soon as accommodation could be found for her. About a week later a report was sent that the patient was suffering acutely from both dyspnœa and dysphagia and she was at once admitted. When she arrived at the hospital these troubles had passed off and no obvious difficulty in respiration was observed subsequently. The patient herself was of opinion that the swelling had varied in size from time to time since she first discovered it; there had been no connexion between such changes and the occurrence of a menstrual period.

The patient was a well-nourished, healthy-looking woman, bright and sharp mentally, but she suffered to some extent from chronic indigestion. The pulse was regular, 80, and of good volume and tension. On inspection of the fauces a hemispherical swelling of about the size of a walnut was seen at the base of the tongue and projecting upward into the faucial aperture. Its surface was smooth, a little paler than the surrounding mucous membrane, and at its foremost limit the opening of the foramen cæcum was apparent. Examination with a laryngoscopic mirror revealed some large vessels ramifying upon the surface but no trace of ulceration. The main part of the tumour was central and on the left side somewhat overhung the epiglottis; a smaller and less prominent portion extended to the right half of the base of the tongue meeting the anterior pillar of the fauces. These appearances were confirmed by palpation, while the tumour was firm in consistence, at parts elastic, and the mucous membrane was firmly attached to its surface. The neck was well formed and although the isthmus of the thyroid gland could not be detected the lateral lobes were apparently present. No enlarged lymphatic glands could be detected.

Prior to operation the patient remained 15 days in hospital, during which time both she and other observers thought that there might be small changes in the volume of the tumour, but the latter underwent frequent examination and much handling. On the sixteenth day the tumour was removed. The patient was anæsthetised with chloroform, a gag was introduced, and the tongue was drawn forward with a thread. The mucous membrane, which was very hard and resistant, was incised just within the base of the tumour, from which it was quite inseparable. The main mass was readily enucleated by the finger and a blunt raspatory from the muscle of the tongue and was then drawn forward with [illegible] in order to facilitate the removal of the portion [illegible]ackwards and to the right. A portion of the [illegible] left *in situ* in view of the possibility of a [illegible] of the thyroid body in the neck. Hæmorrhage [illegible] free, but by keeping the patient's head turned to [illegible] blood was encouraged to run from the mouth [illegible]ous difficulty was experienced from this source. [illegible] the tongue was closed by the insertion of three [illegible] sutures. The patient made an uncomplicated

[The origin of the lingual thyroid was shortly explained by a reference to the development of the gland.]

The condition is one of some rarity, seeing that successive writers have collated only between 30 and 40 cases since the first detailed paper on the subject was written by Chamisso. A lingual thyroid may be met with at any age. Thus, the first described (Hickman) was seen in a newly born infant who died on the second day from suffocation as a result of the size of the tumour. It is, however, much more common for the tumours to be discovered at about the age of puberty as the result of an enlargement which takes place at that period. In an overwhelming majority of the instances recorded the patients were females; thus in one collection of 32 all were women, and in another 26 out of 29 were of the female sex. This is the more remarkable since in a collection of 300 cases of cervical accessory thyroids no less than 250 occurred in males (Gruber).

As to the character of the tumours, when they come under the notice of the surgeon the lingual thyroid has usually assumed the characteristics of one of the forms of goitre commonly found in the neck. Thus in our own case the growth exhibits the typical characters of a colloid goitre, as have some other published cases (vide illustration).

Multiple cystic degeneration has been noted by Curtis and Gaudier, while Kraske describes a tubular adenoma, the tubes filled with embryonic thyroid cells, and Butlin has placed on record two cases which he describes as cystic tubular adenoma. Degenerative changes in the nature of the lingual thyroid probably account for the fact that the tumours remain latent for long periods and then suddenly give rise to symptoms. This rapid enlargement has been attributed to the influence of some acute disease; thus in one case influenza (Collins Warren) and in another whooping-cough (Wolf), but a degenerative change in the gland tissue, similar to that which occurs in cervical thyroids, seems a more probable explanation. In some cases surface ulceration has been noted and in such this may have been responsible for attention being drawn to the tumour.

Size and characters.—Accessory lingual thyroid glands at the base of the tongue are no doubt sufficiently frequent, but they are often very small and remain completely unnoticed. They may lie free in the tongue or be connected to the hyoid bone by a small fibrous cord representing the obliterated thyro-glossal duct. When they enlarge the tumour is usually central, but they may extend more or less to either side as in the case before us. In the large majority of instances the lingual thyroid is an additional vestigial structure, but it is important to bear in mind that occasionally the gland in the tongue is the only representative of the normal organ. Thus the condition has been met with in a cretin, and in at least five of the published cases removal of a lingual tumour has been followed by signs of post-operative myxœdema (Storrs).

Symptoms.—In the majority of instances a latent period has been the rule, the patients in some cases being aware of the presence of a swelling for years before any trouble was experienced. The first sign is usually a sensation of something obstructing the fauces. In two published cases (Hickman and Meixner) infants have been suffocated as the result of the obstruction to respiration; thus Hickman's

case died on the second day, while Meixner's never breathed. In older patients, beyond the interference with deglutition, the voice has been observed to alter in character, either assuming a high pitch with a nasal twang or becoming dull, muffled, and wanting in resonance. Free respiration is interfered with leading to functional troubles, such as snoring, or to actual dyspnœa of varying degrees. Occasionally ulceration of the surface has led to considerable hæmorrhages; this is regarded by Storrs as an important diagnostic characteristic but its occurrence is uncommon. The swelling itself possesses certain definite characters which make its diagnosis fairly easy. It is situated immediately behind and in intimate relation with the foramen cæcum; its surface is smooth, pale, and usually provided with numerous obvious large ramifying blood-vessels. It is practically median, although, as in the case just related, it may extend to one or the other side backwards. It is firm in consistence and non-fluctuant as a whole, although soft points corresponding to cysts may be present.

Certain negative points have been emphasised by Storrs and others as valuable in the diagnosis. Thus a dermoid is usually yellow in colour, more symmetrical in outline, non-vascular on the surface, and when it commences to enlarge does so more rapidly. An enlarged lingual tonsil has a whitish colour, the yellow openings of crypts are noticeable, it is often free from the foramen cæcum, and commonly is accompanied by the presence of adenoids in the naso-pharynx. The surface of a papilloma is less even and it is pedunculated, not sessile. An angeioma is softer, and dark bluish, violet, or nearly black in colour. Malignant growths are more rapid in their development and are accompanied by obvious and palpable infiltration of the surrounding area.

Prognosis and treatment.—Experience has shown that in the treatment of these cases we are sometimes on the horns of a dilemma. While the removal of the tumour is easy and safe, the operation may lead to the development of post-operative myxœdema, or the leaving it, to the development of disagreeable or dangerous symptoms. The first point to try to determine is the presence or absence of the normal thyroid gland. If this is palpably present no difficulty arises; if doubt exists the lingual tumour should not be lightly interfered with. When, however, dysphagia and dyspnœa are prominent signs the growth must be removed and this is the more necessary since the advent of symptoms in many, if not in all, cases corresponds with the occurrence of degenerative changes in the gland tissue. Happily the effect of the removal of the gland can be in great measure neutralised by subsequent treatment by the administration of thyroid extract, while the effect of the operation itself may be diminished by leaving some portion of the thyroid tissue. In the latter relation it is interesting to note that such remnants of the gland have been noticed by Butlin and others to undergo considerable temporary enlargement subsequently to the performance of the operation. I have been unable to verify this observation in the case now under discussion, although I examined the patient several times during the first three months after the operation. This is perhaps to be explained by the fact that there is no reason to believe that the cervical thyroid is markedly deficient. In any case, however, it is no doubt advisable not to remove entirely the gland tissue from the base of the tongue, the more so that if it should happen to cause future trouble it is readily dealt with. The occurrence of post-operative myxœdema, moreover, has been observed in a sufficiently large number of cases to oblige us to consider its development as a very appreciable possibility.

Lastly, as to the method of removal, there is no doubt that removal from the mouth, the head being placed on one side, and the tongue thoroughly drawn forward, is an efficient, safe, and the best method. The defect in the tongue may be sutured and heals readily. A preliminary tracheotomy can very rarely be necessary, and the supra-hyoid incision which has been sometimes adopted appears neither so convenient nor easy, while it has the grave disadvantage of leaving an unnecessary and disfiguring scar.

ENTERIC FEVER IN ABERSYCHAN.—In consequence of the outbreak of enteric fever in the Abersychan district the officials of the urban district have been examining the water-supply, and at the Pontypool police-court last week closing orders were made against the owners of several private wells. The analysis of the water from one of these wells showed that it was "practically diluted sewage."

FURTHER OBSERVATIONS ON ENDEMIC GOITRE.*

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I.—INTRODUCTION.

IN my last communication on this subject, read before the Royal Medical and Chirurgical Society,† the conclusion was arrived at that goitre is an infectious disease. Attention was also drawn to the following points: 1. That water, if it is the chief vehicle of infection, is not the only one. 2. That it is to no dissolved ingredient in water that goitre is due. 3. That the results of all experiments on dogs in Gilgit were constantly negative. 4. That the increased prevalence of goitre in the villages in the lower parts of the Gilgit fan was, in all probability, due to the increased impurity of the water lower down the fan. 5. That the people of Barmis, although living on the Gilgit fan, do not suffer from goitre. 6. That goitre is constantly associated with limestone rocks in Chitral and Gilgit. 7. That goitre can be rapidly acquired by susceptible individuals in goitrous districts; the minimum period of residence necessary being from three weeks to one month. 8. That in Nagar an epidemic of this disease is commencing and that children are first affected. 9. That there is considerable ground for the belief that in the indigenous inhabitants of the goitrous locality a natural immunity to the disease is produced after several generations. 10. That removal from a goitrous district causes a disappearance or reduction in size of symmetrical enlargements of the gland, the extent of the reduction being dependent on the age of the goitre and the presence or absence of secondary changes. 11. That the enlargement of the gland will disappear while the patient is still under goitrous influences if thyroid gland extract is administered by the mouth. It is the purpose of this communication to record such additional facts and observations as may, it is hoped, when taken in conjunction with those which I have already brought forward, remove any doubt as to the infective nature of endemic goitre.

Goitre exhibits a distinct "seasonal prevalence." The large proportion of new cases seen during the year in Gilgit develop during the early spring months (February, March, and April ‡). Regarding the hot months of the year—namely, June and July—I know little, but quite a number of new cases have been observed to develop in the autumn or late summer. Of 90 young Hindustanis who arrived in Gilgit in August 17 were found to have enlarged thyroids when examined in November. During two winters here no new case of the disease has come to my notice—that is to say, no case has been shown to have developed during the winter months. The latter remark does not apply to an increase in size of already existing enlargements. Fresh enlargements of the thyroid gland are seen here with almost as much regularity in the spring months as are fresh enlargements of the spleen in autumn due to malaria. The seasonal prevalence of goitre will be again referred to when the relations of water to goitre are discussed. This "seasonal prevalence" leads up to the assumption that the virus of the disease requires a certain degree of "atmospheric temperature" to exert its maximum effect or favour its action. In my last paper I referred to the local reports in Chitral which incriminated the spring months.[1] It is only within the past year that I have had an opportunity of confirming them.

"Grief," "mental and physical depression," or "attacks of fever" markedly favour the production of the disease; indeed, they may be regarded as exciting or predisposing causes. Several cases have come to my notice where the swelling has made its appearance after "childbirth" or after the "menopause." At "puberty" also the gland not infrequently enlarges. These facts have been noted by observers in other parts of the world. Not only do new cases arise as the result of these exciting or predisposing causes, but previously enlarged glands undergo a further increase

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* The superior figures refer to the bibliography at the end of the article.

† The paper referred to represented the progress made in my observation of this disease up to the beginning of July, 1905. The present contribution is the result of observations made since that date.

‡ In the water during these months no sediment is perceptible.

as a result of these influences. As a rule, such glands return to their former state of what may be called "thyroid equilibrium," when these influences are removed and the patient regains his normal state of health. It is not uncommon, in new cases, to hear that the enlarging gland has fluctuated to a noticeable degree, at times almost completely disappearing, before it becomes permanently enlarged. In adults, goitres may remain of the same size for years, increasing as a result of one or other of the causes mentioned, or diminishing as a result of treatment, but almost invariably returning to their original state of equilibrium when the causes which have produced the increase or the diminution are removed. Goitres in Gilgit are not as a rule large. It is a curious fact that a very high percentage of all enlargements of the gland contain tumours. Of 450 cases examined no less than 70 per cent. were found to be affected in this way.

Up to the present I have been unable to show that difference of "race" plays any essential part in this affection. All the tribes of Gilgit and all the many foreign races residing there appear to suffer. There is, however, no case on record of a white man having contracted the disease in Gilgit, a fact which is doubtless due to the care which is taken with regard to food and drink, as well as to occupation and the situation of their dwellings.

"Occupation" is a factor of very considerable importance. It is noticeable that the landed classes both in Chitral and Gilgit suffer less than do the labouring classes. There are many families of educated Hindustani clerks in Gilgit. They have resided here for years. They do not suffer nor do their wives and children, although they daily drink water supposed to be capable of causing the disease, and live on an infected soil. The total population of this class in Gilgit amounts to 72. Further, none of the hospital staff, 24 in number, have ever developed goitre, while cases not infrequently arise among the Hindu dooly bearers who live on the same soil and drink the same water, but who, in addition, are constantly employed handling soil, either in the gardens or in plastering the mud floors of their rooms. Goitre is most common among the zamindars or land cultivators of Gilgit. The women of this class are more commonly affected than are the men. The troops in Gilgit suffer little; 20 per cent., however, of young recruits contracted the disease last year. It is a notable fact that in the garrison here it is only among those men who have access to the irrigation water that goitre is found. Goitre does not occur among those who drink only the pure water of the Gilgit river which is supplied to them. Large numbers of Balti coolies who come to Gilgit for employment contract the disease there.

The following is the result of the analysis of the Gilgit river water, which does not cause goitre:—

	Grains to gallon.
Total solids	7
Total hardness	4
Calcium	About 6.
Magnesium	Not found.
Iron	Trace.
Sulphates	3
Chlorides	Present in small amount.
Free NH_3	*Nil.*
Organic matter	"
Other metals: lead, copper, and zinc	"
Nitrites	"

II.—GOITRE IN ANIMALS.

It appears to be generally agreed that in places where goitre is prevalent animals suffer as well as men.[2] This has not been my experience in Gilgit. All the dogs in the village of Kashrote were carefully examined (45 per cent. of the inhabitants of Kashrote have goitre) without encountering a single case of enlargement of the gland. Other animals, mules, sheep, goats, cattle, and ponies, have been examined in Gilgit, but I have come across no case of enlarged thyroid among them. The following is a detailed list of the animals examined.

Animals.	Number.	Goitrous.
Dogs	101	*Nil.*
Mules	116	"
Cows	150	"
Sheep and goats	100	"
Ponies	100	"

I have often observed that the hill dogs here present a fulness of the throat which is, on closer examination, found to be due to an excessive growth of hair.

These results would seem to indicate that the causes which operate to produce goitre in man fail in Gilgit to produce the affection in animals. It has been lately pointed out[3] that the functions of the thyroid gland appear to differ very widely in different classes of animals—a fact which may have a very considerable bearing on the subject of the identity of the disease in man and animals. The fact that dogs do not suffer from this disease in Gilgit deprives me of the only animal available for experimental purposes. Cretinism, too, has never been observed in any of the lower animals in Gilgit. I find from recent physiological research that "although extirpation of the thyroid causes a temporary cessation of growth (in animals) we find that this is not necessarily accompanied by symptoms of a cretinoid nature."[3]

III.—WATER IN RELATION TO GOITRE.

I have pointed out that "it is to no dissolved ingredient in the water that goitre is due" and that "if water is the chief vehicle of infection, it is not the only one." It has been shown that, as far as the Gilgit water is concerned and assuming that water is the vehicle of infection, the more impure the water becomes and the larger the amount of matter in suspension, the higher is the percentage of goitre in places supplied by it. The question naturally arises, Can the water at its source, the pure water from the melting snows of the hills, take up on its way down a rocky nullah such ingredients as will give rise to goitre among the people drinking it in the valleys below? In answer to this question the case of the Nagar spring is to be remembered. The people of Nagar have begun to suffer from goitre during the past six years; the water-supply is the same. Goitre was introduced from without. Further, in Gilgit there is a small village called Napur which is supplied by water from its own nullah. The water irrigates the crops before the people drink it; there is 11 per cent. of goitre in the village. The same water runs along a water-course, cut in the side of the hill, for four miles till it reaches the village of Barmis, above which village it joins the Barmis spring and does, in fact, during the summer months make up more than half the total water-supply of the village. There is no goitre in Barmis. There never has been. Indeed, the people occasionally resort to the village to get rid of their goitre and yet the inhabitants drink the water which at Napur is supposed to cause at least 11 per cent. of goitre. It is true that they drink it in a diluted form, but if the water is goitre-producing it is necessary to assume: (1) that the dilution with the Barmis spring robs it of its goitre-producing properties; or (2) that the organism which produces goitre cannot live in running water for four miles; or (3) that the original water of the Napur nullah does not of itself produce goitre but only acts as a vehicle for the organism, which it picks up from the soil of infected localities. I have pointed out[1] how, where the Barmis spring joins the main supply of Gilgit, there is a slight fall in the percentage of goitre in the village of Majinpharri, as compared with the village above it, and suggested that the waters of Barmis "may possibly have a slight influence in causing this fall by diluting the more or less polluted waters of the main channel." In this way it is possible that the first of my three assumptions may be correct. With regard to the second, however, that the organism which produces goitre cannot live in running water for four miles, if this is true, neither could it live in the water of the nullah before it reaches Napur, and, therefore, Napur should be free from the disease, which it is not. I think that, bearing the case of Nagar in mind, it is more reasonable to fall back on the third assumption, that the original water is not in itself capable of producing the disease but that it only acts as a vehicle, picking up the organism which causes goitre from infected sites. This assumption is not incompatible with either of the others formulated. It is quite possible—certainly if the organism which produces goitre is shown to be a bacillus—that such organism cannot survive for four miles in running water. It is also possible that dilution with a purer supply may kill it. This fact has been commented on as far back as 1899 by Dr. Mackenzie.[4]

My experience of the disease in Chitral and Gilgit makes it necessary for me to admit that water is, as a rule, the vehicle for the organism of this disease. But there is no

sufficient evidence to show that the original water is in itself capable of producing goitre. Many investigations have been carried out by me to demonstrate, if possible, the effect of boiling and filtering waters supposed to be capable of causing goitre. The experiments on dogs recorded in my first paper [1] were obviously without result owing to the fact that dogs do not suffer from goitre in Gilgit. In Appendix I. I give the results of a series of observations on men, carried out in Chitral, which I have not hitherto published; these are now recorded, because further observations on man have given similar results in Gilgit. It has been shown that symmetrical goitres diminish in size when the patient leaves the infected area, in the case of young goitres, and in young people the subjects of goitres of considerable standing in which no secondary changes have taken place; this diminution is very rapid indeed. Men in the garrison here tell me that their necks become, at the time of the bi-annual reliefs, normal in size, before they reach Kashmir, a march of only 15 days. Now remembering these facts, it must be admitted that if water is the only cause of the disease, boiling and filtering it would necessarily place the patient in a similar position with regard to goitrous influences as removal from the district. My observations (see Appendix I.) have failed, both in Chitral and Gilgit, to demonstrate that such is the case. So long as the subjects of the disease live on the infected site no markedly beneficial results are observed to occur as the result of boiling and filtering the waters of that site. These observations were carried out with the greatest possible care so as to insure that only boiled or filtered waters were used by the subjects of the observations. I believe that the men under observation did not drink other waters, and this for two reasons, first, owing to the loathsome nature of the disease, which no soldier or well-to-do young Chitrali cares to be burdened with, and is, therefore, anxious to be rid of; and, secondly, owing to the penalties imposed for infringement of the orders given. I propose again to put this point to the test, but up to the present time I must admit that no beneficial results have been observed in treating the water either by boiling or filtering. From this I do not conclude that boiling or filtering suspected waters may not be beneficial, but that, if such treatment of the waters is beneficial, these measures alone will not prevent or cure the disease; at most they will only lessen the chance of infection. It is a very noticeable fact that new cases of goitre arise at a time when irrigation is at its height and coincident with its commencement in February and March when the degree of impurity of irrigation water used for drinking purposes must be very considerable. It is curious, too, that no new cases should have come to my notice during the winter months when irrigation is not practised. In this connexion the observations of Macnamara [3] in the Brahmaputra and Chenab valleys are of importance. This observer found that it is during and after the rains when the waters, so far as their mineral ingredients are concerned, must be in the state of greatest dilution, that the disease most commonly commences and most rapidly develops. It appears to me, therefore, that the organism may possibly be washed into the drinking water channels from the soil of the infected locality, or that the added impurity of the water favours its action. The marked increase in the percentage of goitre in the lower parts of the Gilgit fan, as compared with the upper parts, favours this view, the water becoming more and more infected, more and more impure on its way down.

IV.—SOIL IN RELATION TO GOITRE.

There would appear to be three factors having some greater or lesser causal connexion with the endemic occurrence of goitre in Gilgit. These are, the geological origin of the soil, the dampness of the soil, and the slope of the ground.

It has been pointed out that goitre, in Gilgit and Chitral, is invariably associated with limestone rocks; that the water supplying goitrous localities is invariably so associated. The sites of the villages are the alluvial fans, which have at one time been formed by the stream which now serves the people as a water-supply. The limestone is found in the nullah at the mouth of which is the alluvial fan. Limestone, therefore, enters largely into the composition of the soil on which the villages stand. It has been demonstrated that water is not in itself the cause of goitre; it is, therefore, reasonable to suppose that whatever the causal connexion which exists between the endemic occurrence of goitre and the limestone may be, it is through the soil that it exerts its influence. The goitre-free village of Barmis is in marked contrast to the rest of Gilgit in this respect. It is not situated on a soil into the composition of which limestone enters. It is situated on clay. The village lies at the base of a hill in which there is no limestone; the soil of the village is the accumulation of detritus at the base of this hill. This is a fact of much importance and one which may explain to a large extent the absence of the disease in Barmis.

With regard to dampness of the soil as a factor in the causation of goitre, it is to be observed that in Gilgit the most goitrous villages are those which are dampest, when from their situation or the slope of the ground the surface drainage is bad and where in consequence the subsoil water is near the surface. The village of Kashrote lies in a hollow which is practically waterlogged at the height of the irrigation season. Barmis, on the other hand, is situated on a slope, as well as on a clayey soil; the surface drainage is good, the subsoil water low.

I consider that the dampness of the soil is a factor which cannot be overlooked. Observers in other countries have frequently drawn attention to the fact of the greater prevalence of the disease in narrow valleys possessing a damp or marshy soil. Goitre is known to occur in soils which are dry but there is no reason why a certain degree of moisture may not be of importance. Malaria was formerly named "marsh fever" from the fact of its prevalence in marshy places; it occurs none the less in places which are far from marshy; the mosquito does not require a marsh in which to develop, a water-pot serves its purpose equally well. Also, the beneficial effect of the introduction of good drainage has been commented upon by observers in other countries.[4] A damp soil in association with goitre would appear to be the rule, its occurrence on a dry soil the exception. Exceptional conditions must, therefore, be sought for to account for its occurrence on exceptionally dry soils. It is necessary to find the equivalent of the water-pot of the mosquito. I have dealt with this point at some length because I find that its probable importance is likely to be ignored; one prominent text-book, indeed, goes so far as to say that dampness of the soil cannot seriously be regarded as an etiological factor, a view which I consider to be a narrow one considering the present state of our knowledge of this disease. The following facts appear to me to indicate that the soil is the natural habitat of the organism of goitre:—1. The epidemic outbreak of goitre in Nagar after the introduction of the disease from without. 2. The fact that water in itself does not cause the disease. 3. The fact that those whose occupation brings them into close contact with the soil suffer most. 4. The absence of beneficial results from boiling and filtering waters while the subjects of the experiment still live on an infected site. 5. The fact that the disease is confined to very limited areas. 6. The fact that even in infected areas groups of houses, or even whole communities, escape the disease.

V.—THE BLOOD IN RELATION TO GOITRE.

A large number of blood examinations have been made in cases of goitre at all stages of the disease. It may be stated at the outset that although blood examinations have been made in over 100 cases of this disease, the hæmatozoon described by Professor Grasset [6] has never been met with. The cases shown in the first table of differential counts are all of less than three months' standing, which would appear to be recent enough infections for the detection of blood parasites. Cases of such recent origin as those of Professor Grasset have not been examined. Examination in 10 recent cases of blood obtained by thyroid puncture has also given negative results. The number of white blood corpuscles is within normal limits in goitre.

For tables of differential counts see Appendix II. It will be observed from these tables that in many cases there is a marked "eosinophilia," and this even in cases where examinations of the fæces for intestinal parasites have been negative. It will be seen that an eosinophilia is not a constant feature of this disease. A more constant feature is the relative diminution in the numbers of the polymorphonuclear leucocytes and the relative increase in the mononuclear elements of the blood. Analogy between these results and the blood conditions characteristic of other diseases suggests the probability of a microbic or parasitic

FIG. 1.

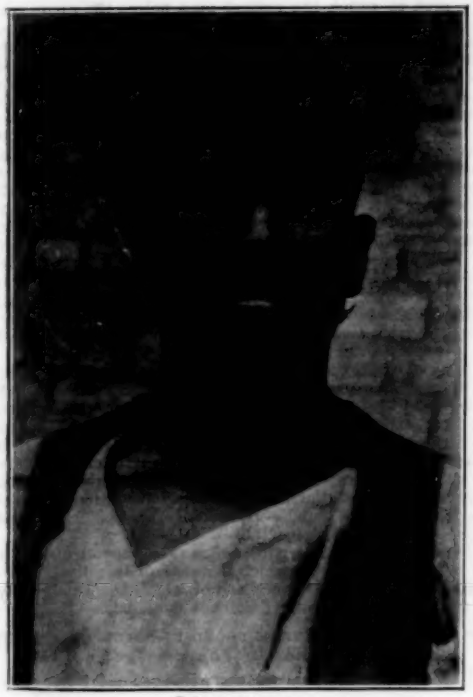
Before treatment.

FIG. 2.

After treatment.

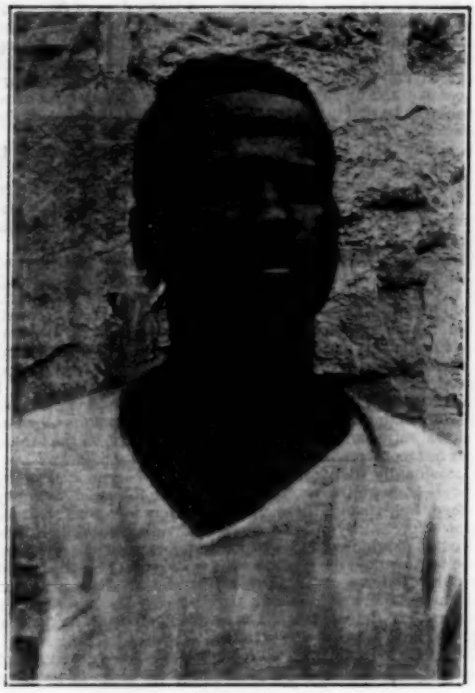
Treatment of goitre by thymol. Gilgiti. Three months' case. Duration of treatment 17 days.

FIG. 3.



Before treatment.

FIG. 4.



After treatment.

Treatment of goitre by thymol. Hindustani newcomer. Three months' case. Duration of treatment 17 days.

infection of the alimentary tract of man, as the etiological feature of the disease.

VI.—THE FÆCES IN GOITRE.

The following experiment was undertaken before it was discovered that dogs in Gilgit do not suffer from goitre. The results were negative, but the experiment is worthy of record. On Nov. 17th, 1905, five puppies, average age four months, were confined in a pen on ground near the village of Barmis where goitre does not occur. To these five puppies Barmis water, contaminated by the fæces of goitre patients, was given; their food also was contaminated in the same way. As a control five other puppies were confined in a similar pen, on the same ground, and to these pure Barmis water was given. At the conclusion of the experiment, on March 1st, 1906, only one dog was alive in each pen; the others had died in February owing to mange. No enlargement of the gland occurred. The experiment was undertaken to put to the test the view that possibly the organism which causes goitre is contained in fæces. A large number of microscopical examinations of the fæces have been made. There are up to the present time no definite results to record.

VII.—INTESTINAL ANTISEPTICS IN GOITRE.

The possibility of the intestine being the seat of infection in this disease having occurred to me, and the blood counts appearing to support such a view, I was led to try the effect of intestinal antiseptics in selected cases. The cases selected were those in which no secondary changes had taken place in the gland. The drug selected was thymol. The good effect of this line of treatment was immediately apparent. Cases of recent origin react at once and in some the enlargement of the gland disappears with extraordinary rapidity. The swelling in the course of the first week of treatment becomes soft and gradually disappears after a longer or shorter period depending apparently on the age of the goitre. Reproductions of photographs are here shown of cases in which the drug was administered (Figs. 1, 2, 3 and 4). Attention is directed to the duration of the treatment in each case shown. I have now cured 25 cases of goitre by means of thymol, the most rapid disappearance having taken place in 17 days, while the longest period over which the drug has been employed was 60 days. My practice is to administer 30 grains on the morning of the first day of treatment followed by a purge the same evening, after which ten grains night and morning are given in cachets. A large dose of 30 grains is administered twice a week, followed by a purgative. The treatment is kept up without intermission till the swelling disappears. No ill-effects have been observed to follow the use of thymol administered in this way. For the most part the cases cured by thymol have been of about three months' standing. In several instances, however, the duration of the disease has been one year and over.

Beta-naphthol also appears to act beneficially, though it has not been given the same extended trial as thymol. I notice that Woakes successfully used hydrofluoric acid in the treatment of goitre.[7] I conclude that the beneficial effect of these drugs is due to their intestinal antiseptic action.

Not only is thymol beneficial in early cases but it is so in all cases in which the swelling is progressing. Among the troops here it is not uncommon to see men on arrival in Gilgit, who have served here before, who have a small unilateral enlargement of the gland which even removal from the district had not caused to disappear. The thyroid in these cases invariably enlarges again in Gilgit, and thymol has rapidly reduced it in all the cases in which I have adopted this line of treatment. In old-standing cases the seat of adenomata, the gland around the nodular masses becomes softer and retreats from the tumours, so that these latter are more readily visible or palpable.

Occasionally distressing symptoms are complained of by sufferers from goitre, such as feelings of suffocation, inability to sleep, &c., though these are more rarely met with than we might expect. Symptoms of this sort are relieved, in the two cases in which I have had an opportunity of trying the drug, in a marked degree and that very rapidly by the use of thymol. I have observed, also, in some early cases that even in as short a time as two or three days a noticeable difference is detected by the surgeon, as well as by the sufferer, in the size of the gland.

It is, as I have said, as common to see new cases of enlarged thyroid here in the spring as it is to see new cases of enlarged spleen in the autumn. I now approach the treatment of the former by means of thymol with as much confidence as I do the latter with quinine. Most enlarged thyroids (those in which the gland is itself diseased and altered by secondary changes excepted) disappear with as much rapidity under thymol as do most spleens under quinine. I say "most thyroids" and "most spleens" advisedly, for there is no more reason for assuming that all enlarged thyroids are due to an infection of the intestine than for attributing all enlargements of the spleen to the hæmamœba of malaria. Exophthalmic goitre is so rare in Gilgit that I have not had an opportunity of trying thymol in this disease. I would suggest its use in this affection.

It will be interesting now to marshal the facts which have been accumulated in such a way as to bring this disease into line with other diseases of an infectious nature. 1. Goitre is caused by an organism invading the body of man. All the evidence so far accumulated points to the intestine as the seat of infection. 2. In nature it lives in the soil of infected localities and is very limited in its distribution. 3. It is conveyed to man in the drinking water, by contact with soil, or by other means yet undetermined. 4. It requires a calcareous soil to enable it to flourish and produce goitre. 5. It can be conveyed by man to places where the disease has not hitherto prevailed and, if the conditions are favourable there, it can produce the disease. 6. The virus is, therefore, given off by persons suffering from the disease, in some way as yet undetermined, but not unlikely by means of the fæces. 7. The fact that it requires peculiar conditions of soil, &c., suggests a stage of development outside the body of man. 8. There is reason to believe that it is destroyed by admixture with pure water. 9. The organism flourishes best where there is a certain degree of moisture. 10. The organism requires a certain temperature, in all probability, to favour its development. 11. Where it gives rise to an epidemic the most susceptible individuals suffer most and first—namely, the children. 12. There is reason to believe that where the disease has prevailed for years a natural immunity is developed. 13. Those who come into close contact with the soil in their daily occupations suffer most. 14. Newcomers to a district acquire the disease very rapidly, from three weeks to one month being the minimum incubation period of this disease—20 per cent. of newcomers suffer. 15. Goitre shows a marked seasonal prevalence. 16. Goitre disappears when the patient leaves the infected area and cannot arise in the new area to which the patient goes unless the above conditions for the growth of the organism are present—calcareous soil, moisture, virus of the disease, and susceptible individuals. 17. The duration of life of the organism in the body of man is not great, as shown by the fact that the gland diminishes in size when the patient leaves the infected area. 18. An organically impure water may favour the spread of the disease. 19. All races suffer. 20. Women suffer more than men. 21. Certain conditions, such as emotional disturbances, attacks of fever, &c., act as predisposing or favouring causes. 22. Boiling and filtering the water alone do not prevent or cure the disease so long as people live on the infected site. 23. Domestic animals do not suffer from goitre or cretinism in Gilgit. 24. Large communities living on the infected site often escape; groups of houses also escape the disease. 25. Certain blood changes occur in goitre of an uncertain nature, but suggesting, from analogy with other disease, a parasitic or bacterial invasion of the intestine. 26. Goitre is rapidly cured by the administration of intestinal antiseptics.

It appears, then, that the disease, of which the enlargement of the thyroid gland is the external indication, differs little from other diseases of an infectious nature. The enlargement of the thyroid is not in itself the disease. In its beginning it is a pure hypertrophy, a protective increase in size, comparable to that of the spleen in certain other infectious diseases, and, like the spleen, it returns to its normal size when the causes which have stimulated the exercise of the gland's protective function have been removed.

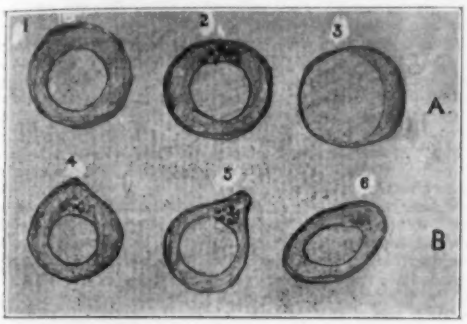
To sum up, then, I regard goitre as a general disease of an infectious nature in which the seat of infection is most probably the intestinal tract and of which the enlargement of the thyroid gland is the dominant symptom.

DESCRIPTION OF ORGANISMS FOUND IN FÆCES OF PERSONS SUFFERING FROM GOITRE. (*Examined under* × 800.)

1. In fresh fæces two varieties were seen most frequently

—A, spherical; B, pear-shaped or oval. Colour, brownish-yellow; doubly contoured. Contents, central clear area surrounded by thin membrane, external to which is the protoplasm of the organism. In the latter coarse granules are frequently seen massed together at one pole of the central spherical body or nucleus (?). The central clear area varies in size, sometimes almost filling the whole organism. The size of the spherical and pear-shaped variety of the organism is fairly constant. I make it 18μ. The accompanying diagrams illustrate the above. (Fig. 5)

FIG. 5.



B, This variety usually possesses granules at one pole.

2. Spherical bodies also are seen in which the whole cell contents appear to be finely granular and in which the central clear space is not apparent or is obscured.

3. Occasionally on carefully focussing the surface of the sphere shown in drawing A a network faint in outline can be made out. This network appearance is confined, I am convinced, to the wall of the organism. It can only be seen when the surface which is nearest the observer is thrown into and out of focus. Whether this is a young form of the body described in paragraph 5 I do not know. I suspect it is.

4. The next most common form or stage of the organism to be seen is that in which the cell contents are undergoing division. This division is *confined* to the central clear spherical body already described. The protoplasm does not take part in it. Many appearances have been observed.

FIG. 6.

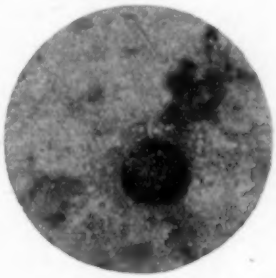


Fig. 6 shows the appearances presented beautifully; in this the rounded divisions are clearly seen on looking into it closely.

5. In addition to these organisms, which are all forms of the spherical, oval, or pear-shaped varieties, the following is observed. A perfectly spherical body slightly *larger* than the above and provided with prickles. This form is seen with great frequency. It presents different appearances according to the focus. When the surface of the sphere is in focus it is seen to be possessed of a network of clear spaces. See reproductions of micro photograph (Figs. 7 and 8. Concerning Fig. 9 see paragraph 6). When, however, the body of the organism, the equator of the sphere, is in focus it is seen to be provided at intervals with prickles, while the cell contents may appear granular simply or divided into portions. On bringing the distal pole of the sphere into focus the reticulated appearance of the cell wall is again seen. That this network is confined to the cell wall (shell) is shown by the factsnoted in the next paragraph.

FIG. 7.

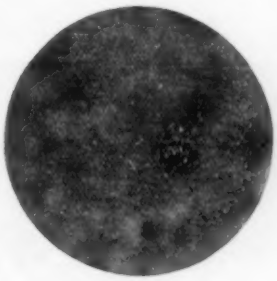


FIG. 8.

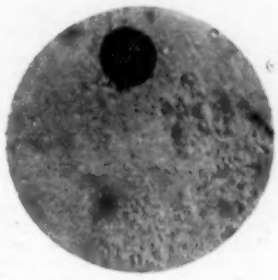


FIG. 9.

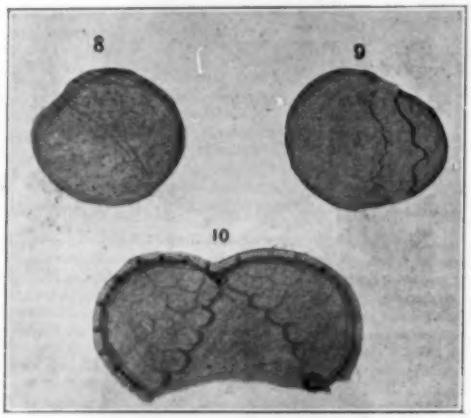
6. Portions of *shell* are frequently met with. In Fig. 10 a crack may be seen running across the organism and in the prickly variety a crack at some portion of the surface is

FIG. 10.

commonly observed. In addition fragments of shell of all classes shown are frequently met with (Fig. 11). In no case

can I say that an escape of cell contents was observed. Sometimes small spherical bodies were observed in the positions indicated; whether these are the contents of the cells or not I do not know. I do not know what the organism is. I believe that the varying organisms described in

FIG. 11.



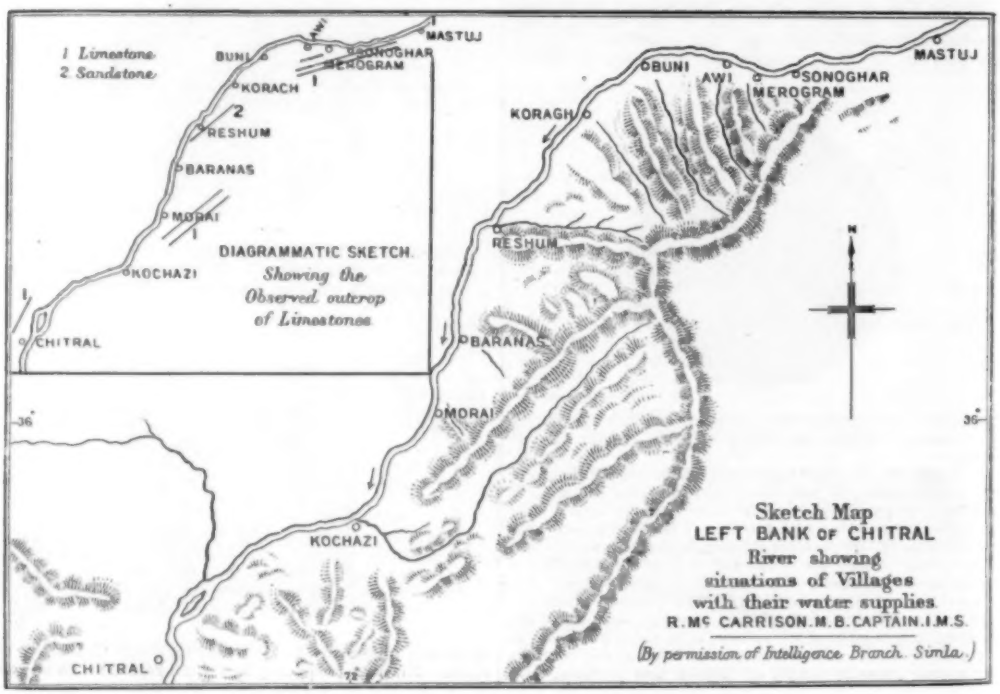
10, Shell with 20 spines; shell apparently empty.

paragraphs 5 and 6 are all the same but at different stages of growth or development. I also think that in all probability these develop into prickly forms (see paragraph 3), and I believe that the development takes place in the intestines of man, otherwise the different varieties depicted would be difficult to understand. The prickly varieties suggest a vegetable origin (see later), but on the other hand there are many points which suggest that the organism may be a sporozoon. In size, shape, and appearance it resembles the coccidia. The division of the cell contents suggests a form of reproduction (schizogony). The fact that certain prickly forms are observed is not peculiar, as sporozoa are often provided with the most diverse forms of organs for the purpose of attachment to their hosts. The solitary form observed (Fig. 9) is peculiar, where two otherwise typical bodies are welded together but otherwise perfectly distinct one from the other. The question arises, Is this a conjugation form? The size and general appearance of the compound organism show it to be nothing else than two of the organisms described joined together. It is twice the size of a single organism. I am inclined to think that the organism may be a *sporozoon*.

7. Its association with goitre. (*a*) It is constantly found in cases of goitre. (*b*) It is found also in the fæces of those living on a goitrous soil. (*c*) It is not found in the fæces of children in the village of Barmis. (*d*) It has been observed in the fæces of goitre cases in places so far apart as Bagrote, Gilgit, and Chilas. (*e*) In a case treated by thymol in which the swelling had practically (but not quite) disappeared, and where the organism was found in large numbers when the treatment was begun, this body was found after four months with the greatest difficulty, although the patient had not been under treatment for three months. (*f*) The presence of a sporozoon in the intestine as the cause of goitre would explain a great deal which is at present difficult to understand: the cure of the disease by thymol; the limitation of the disease to certain areas; the disappearance of the swelling when the patient leaves the infected area; the variations in the size of the gland, sometimes small, sometimes large, &c.—this being dependent on the reproductive powers of the sporozoon, whether reproduction is mainly by schizogony or sporogony, and how far such development takes place inside the body of man, and how far in the outside world or in the body of another host.

That the organism which I have here described is the cause of goitre there is little or no proof. I wish it merely to be understood that I find it in association with goitre. If the organism is a sporozoon it will be strong presumptive evidence in favour of its being the cause of goitre in Gilgit.

FIG. 12.



APPENDIX I.

Experiments showing the Result of Boiling and Filtering Water Supposed to Cause Goitre.

Series I., Sonoghar, Chitral, July-August, 1904. The subjects of experiment were young men of better classes, residents in Chitral valley, not residents of Sonoghar. Period of observation, 60 days. Percentage of goitrous individuals in Sonoghar = 41·8.

A. *Filtered water.*—1. Six individuals, subjects of considerable goitre; drank only filtered water for two months. Four increased; one was conscious of it and two showed no appreciable difference. Average increase in size = 1·6 centimetres. 2. Seven individuals not sufferers from goitre. Four showed increase after two months, three no appreciable difference. Average increase in size of the four = 1·65 centimetres.

B. *Boiled water.*—1. Six goitrous individuals. Four showed increase; two cases conscious of it, two no appreciable difference. Average increase was 1·85 centimetres. 2. Four individuals; no goitre. Two increased, two showed no appreciable difference. Average increase = 1·45 centimetres.

C. *Ordinary water of Sonoghar.*—1. Twelve individuals, subjects of goitre. Nine increased; three showed no appreciable difference. Average increase = 1·75 centimetres. 2. 12 individuals, not subjects of goitre. Four increased; eight showed no appreciable difference. Average increase = 1·25 centimetres.

D. *Control observations.*—The subjects were natives of the village of Sonoghar. 1. Six individuals, subjects of goitre living under ordinary conditions of life and observed for two months. Three increased; three showed no appreciable difference. Average increase = 1·44 centimetres. 2. Two individuals, subjects of goitre, given boiled water for two months. One increased, 2·7 centimetres; one showed no appreciable difference. 3. One individual, subject of goitre, given filtered water for two months; no appreciable difference. 4. Six men, not subjects of goitre, given ordinary water. Three increased; three showed no appreciable difference. Average increase = 1·2 centimetres.

The above experiments were carried out at the "Chitral Scout" Camp of Exercise, the men were under strict discipline, taking hard exercise daily, and having the ordinary sepoy's ration. Allowing for all possible sources of error, increase in size of neck owing to fat, congestion, &c., or errors of measurement, it will be observed that no cases benefited by the use of boiled or filtered water. 20 per cent. of newcomers contracted goitre in two months in Sonoghar.

Series II.—Gilgit, autumn, 1905. The subjects of experiment were newcomers. Hindustanis, arrived Gilgit August, 1905. Period of observation 60 days.

A. *Filtered water.*—Four cases, small goitres. Two increased; patients conscious of increase. One unilateral swelling diminished; one showed no appreciable difference.

B. *Boiled water.*—Seven cases, small goitres; no appreciable difference could be detected.

C. *Controls, no restrictions.*—14 individuals, small goitres. 12 showed no appreciable difference, in one the gland was considerably larger, in one it was slightly smaller.

APPENDIX II.

Differential Blood Counts in Endemic Goitre.

A.—Cases of goitre of recent development (three months).

—	Polymorphonuclears.	Large mononuclears.	Small mononuclears.	Eosinophiles.	Remarks: Fæces.
1	59·3	7·0	25·7	8·0	—
2	36·9	10·3	32·8	20·0	Gland blood. Ascaris oxyuris in fæces.
3	32·0	15·0	39·0	14·0	—
4	46·2	12·6	34·0	7·2	Total leucocytes, 7800 per cubic millimetre.
5	40·0	13·6	35·0	11·4	Ditto. Ascaris in fæces.
6	45·0	14·0	30·0	11·0	Total leucocytes, 6250 per cubic millimetre.
7	50·5	12·3	30·0	7·2	—
8	39·2	14·2	30·0	16·7	—
9	43·0	17·0	30·0	10·0	*Nil* in fæces.
10	39·0	10·0	31·0	20·0	Ascaris in fæces.
11	44·0	18·0	30·0	8·0	"
12	40·0	10·0	35·0	15·0	*Nil* in fæces.
13	40·0	15·0	37·0	8·0	"
14	45·6	10·6	30·8	13·0	"
15	59·0	12·0	21·0	8·0	—
16	49·0	11·0	27·0	13·0	—
17	56·0	9·0	28·0	7·0	—
18	50·0	10·0	18·0	22·0	—
19	46·0	6·2	40·0	7·8	—
20	44·4	8·5	43·6	3·5	—
21	52·8	8·0	34·0	5·2	—
22	44·0	6·0	39·0	11·0	—
23	59·0	8·0	30·0	3·0	—
24	40·0	8·0	36·0	16·0	—

B.—Cases of former infection. The patients had suffered from goitre before, but the swelling had, in part or wholly, disappeared on leaving Gilgit, and reappeared on arrival again in the infected locality.

—	Polymorphonuclears.	Large mononuclears.	Small mononuclears.	Eosinophiles.
1	61·2	9·0	22·5	7·3
2	59·0	9·0	20·0	12·0
3	67·6	6·6	18·8	7·0
4	60·0	7·0	28·0	5·0
5	53·4	10·0	30·0	6·6
6	30·0	15·5	42·0	12·5
7	44·0	10·0	33·5	2·5
8	54·7	9·0	30·0	6·3

C.—Cases supposed to be of about one year's standing.

—	Polymorphonuclears.	Large mononuclears.	Small mononuclears.	Eosinophiles.
1	37·0	18·3	41·5	3·2
2	48·4	9·8	30·0	11·8
3	42·0	11·2	30·0	16·8
4	53·8	7·4	34·0	4·8
5	40·0	11·2	32·4	16·4
6	53·4	9·5	32·3	4·8

D.—Old-standing cases.

—	Polymorphonuclears.	Large mononuclears.	Small mononuclears.	Eosinophiles.
1	58·4	8·3	20·5	12·8
2	37·7	8·8	48·0	5·5
3	40·2	19·0	34·0	6·8
4	58·4	6·3	32·8	2·5
5	58·9	7·4	30·0	3·7
6	50·5	15·0	30·0	4·5
7	40·0	16·2	38·0	5·8
8	49·5	11·3	32·8	6·4
9	44·8	14·0	32·0	9·2
10	37·0	15·8	43·4	3·8
11	58·0	13·0	28·0	1·0
12	44·0	9·6	36·8	11·6

E.—Differential counts of cases of three months' standing and at five months; no treatment.

—	Polymorphonuclears.	Large mononuclears.	Small mononuclears.	Eosinophiles.	Number of count.
1	40·0	13·6	35·0	11·5	First.
½	49·5	10·0	32·3	8·2	Second.
2	39·2	14·2	30·0	16·6	First.
½	47·0	10·0	37·0	6·0	Second.
3	43·0	17·0	30·0	10·0	First.
½	47·8	5·2	33·7	15·3	Second.
4	39·0	10·5	31·5	20·0	First.
½	32·0	7·0	45·0	16·0	Second.
5	46·0	10·5	33·0	10·5	First.
½	57·8	6·1	27·3	6·8	Second.
6	40·0	10·0	35·0	15·0	First.
½	45·3	9·6	3. 0	14·1	Second.
7	59·0	12·0	21·0	8·0	First.
½	65·0	7·0	21·0	7·0	Second.
8	56·0	9·0	28·0	7·0	First.
½	42·7	7·8	37·8	11·7	Second.
9	30·0	15·5	42·0	12·5	First.
½	36·5	5·0	44·1	14·5	Second.

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Gilgit, Kashmir, India.

WATER GAS, CARBURETTED WATER GAS, AND CARBON MONOXIDE POISONING.

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INTRODUCTION.

THE adoption in recent years by municipal and private gas companies of carburetted water gas as a substitute for, or as an admixture of, illuminating gas has given rise to some important questions from the public health and forensic points of view. These points, be it said at once, have reference mainly to increased risks of danger to health and life. The reasons which have prompted these companies to its use have doubtless much attraction from the standpoint of the gas-producer, not less probably from the economic side as from the comparative simplicity of production. These reasons may be briefly summed up as follows, viz.: (1) the plant required being more compact demands smaller ground space for its installation; (2) the product can be more quickly produced and therefore can be supplied more rapidly on occasions when a large supply of gas has suddenly to be provided in populous centres—as, for example, on sudden onset of fogs; (3) it requires fewer hands in its manufacture; and (4) it is cheaper, therefore, on the whole to produce. Whatever be the reasons, however, which have incited its adoption, the fact is established that in America, Great Britain, and other countries numerous cities have employed, and are now employing, it either as a substitute for ordinary coal gas or as a percentage admixture of coal gas.

It will be well at the outset to recall what is exactly meant by the gaseous compounds known as *water gas*, *producer gas*, and *carburetted gas*, and to contrast the composition of these with that of ordinary coal gas, as it is important, when the term "carburetted gas" is used, that its exact composition should be remembered. It should be understood that the two former are used for the motive power of gas engines and for heating purposes, whereas for public or domestic lighting purposes it is carburetted gas alone or carburetted water gas mixed with coal gas that is used. What are producer gas and water gas and how are they made? The former is made by passing air, or a mixture of air and steam, through incandescent coke or anthracite coal in a furnace generator or retort. The carbon ought to be about the temperature of 2000° F. in order to attain the point of maximum production of the gas. This is the mode by which it is made in the Dowson producer. The product consists of a mixture of hydrogen, nitrogen, marsh gas, and carbon monoxide, with carbon dioxide as its principal impurity. The latter, water gas, is manufactured essentially in the same way, except that steam only is passed through the incandescent coke, the product being chiefly carbon monoxide and hydrogen, in terms of the following equation: $C + H_2 = CO + H_2$. If, however, the temperature of the carbon be much lower than 2000° F. there is a relative increase of the CO_2, thus: $C + 2H_2O = CO_2 + 2H_2$. Temperature of production, therefore, has an important influence on the percentage amounts of CO and CO_2 in the compound produced, and as the former gas is the desideratum, regulation of temperature of the carbon is of importance. According to Sachs[1] wood charcoal at 350° C. (662° F.) gives off 78·6 per cent. of CO_2 and 21·4 per cent. of CO, whereas at 1100° C. (2012° F.) it yields 1·3 per cent. of CO_2 only, and 98·7 per cent. of CO. Carburetted gas, or carburetted water gas as it is sometimes called, is a different product from both of the foregoing. It is manufactured by passing water gas, made as above, over a large superficies of heated refractory material charged with oils rich in hydrocarbons. The effect of this procedure is that the more volatile hydrocarbons are vapourised or rendered gaseous, and are thereby mixed with the water gas, the resultant product being what is called carburetted gas. The volatilised hydrocarbons thus incorporated are mainly benzene and benzene congeners, and they impart to the carburetted gas an odour similar in kind at least to the characteristic odour of illuminating gas made solely from coal.

[1] Die Kohlenoxyd-vergiftung in ihrer Klinischen, Hygienischen, und Gerichts-Aertzlichen Bedeutung, 1900.

The difference in composition between carburetted gas and olefiant or coal gas depends entirely on the mode of manufacture. Coal gas is a compound mixture of gases produced by the destructive distillation of bituminous or cannel coal in air-tight retorts by the agency of high temperature, which mixture, after having been purified by washing or scrubbing and by lime to rid it of objectionable ingredients, chiefly the sulphur compounds, is employed for municipal and domestic lighting and for power purposes. It is not necessary now to enter into details concerning the relative utility of these products further than to say that, in relation to coal gas, producer gas and water gas have low illuminating qualities and high heat-producing properties. From the public health point of view, however, it is important to note that the chief difference in the composition of producer gas, water gas, and carburetted gas, when contrasted with coal gas, is the relatively much higher proportional amounts of carbon monoxide which they contain. Coal gas, for example, may be said to contain on the average from 6 to 9 per cent. of carbon monoxide, whereas producer gas or water gas contains as much as from 25 to 50 per cent., and carburetted gas about 30 per cent. By reason, therefore, of the large increases of carbon monoxide in these last-named products, it will readily be perceived how, in certain circumstances of exposure to leakage, risks to health and danger to life will be substantially increased by the use of the former compared with the use of coal gas.

There can be no doubt whatever of the toxic effects of carbon monoxide gas when inhaled, and since this may be taken for granted no further elaboration of statement is at this stage needed. It has been argued by some, however, that the toxic influence following the inhalation of coal gas, or of carburetted gas, is not solely or entirely due to the carbon monoxide which each contains, but to the benzene and benzene congeners which each contains. Let us for a moment inquire if there be substantial ground for this belief, and if so, how far benzene present in the inhaled gas is a determining influence in the causation of death.

In a paper read before the Royal Society by Stachelin, in which were presented the results of a research into the action of coal gas on frogs, it was shown that on exposure of these animals to coal gas motor phenomena were produced which were not found if the coal gas had been previously purified by passing the gas through oil, and also that these motor phenomena could be reproduced if the purified gas were made to take up benzene vapour. Stachelin indicates that this research was initiated by reason of a statement by Vahlen that a difference does exist between the toxic action of common coal gas and that of carbon monoxide. It would appear from Stachelin's experiments that these differences depend on the presence of benzene in coal gas. Vahlen asserted that warm-blooded animals and frogs died more rapidly after exposure to coal gas than ought *a priori* to be expected from the amount of carbon monoxide which the gas contained. But Stachelin's experiments on warm-blooded animals with air containing a small percentage of benzene showed that no evil effects were observable. This, it was believed, is due to oxidation of the benzene within the body to an aromatic sulphate, in which form it is excreted from the body. The net result of these experiments by Stachelin seems to be that inhalation of benzene in coal gas does not produce definite appreciable toxic effects on man, and that the toxic effects produced must be held attributable to the contained carbon monoxide.[2] Moreover, the experiments made on behalf of the Departmental Committee on Water Gas, 1899, by Professor J. Lorrain Smith, showed that the evil effects of both coal gas and carburetted water gas are due to carbon monoxide alone and not to any other constituents, which are relatively harmless.[3] From experimental evidence, therefore, as well as from experience, we are bound to consider the toxic influence of inhalation of these gases, apart from their general asphyxiating action, to be entirely due to carbon monoxide.

When pure, carbon monoxide is a colourless gas, with a very faint odour, and has a specific gravity of 0·9678. It is sparingly soluble in water, does not support combustion, burns with a pale blue light, and in burning unites with an additional molecule of oxygen from the air to form carbon dioxide. Producer and water gas have some, though slight, odour due to volatile products from the coke, while

[2] Transactions of the Royal Society, 1904; THE LANCET, Feb. 20th, 1904, p. 526.

[3] Report of the Departmental Committee on Water Gas, 1899, Appendix vii., p. 127.

carburetted gas and coal gas possess a much more marked odour, the latter more than the former, due to the benzene which they contain. It has not uncommonly been supposed that one of the chief dangers of use of carburetted gas is the relative absence of tell-tale odour; this, however, is erroneous, since that gas on being passed as water gas over the oil carrying material becomes charged to some extent with benzene and other odorous substances, which are readily detectable by anyone possessing the ordinary sense of smell, and who is physically fit to detect odours. Experiments have abundantly proved this. One only need be cited. In a report to the Edinburgh and Leith Gas Commissioners as to the advisability of that corporation laying down plant for the manufacture of carburetted gas, Professor A. Crum Brown narrates the results of some experiments he had instituted on this point. "An experiment," says he, "was made in a room into which carburetted water gas was allowed to pass from a bracket at the side at the rate of five cubic feet per hour. In less than two and a half minutes there was a quite distinct smell of gas in the centre of the room; in five minutes it was so strong as to be decidedly unpleasant. At that time, the proportion of carburetted water gas in the room would be one part in about 800 parts of air." So far as odour is concerned, as a sensible means of detection, it may be taken for granted that that is sufficiently marked in carburetted water gas.

USE OF CARBURETTED WATER GAS BY GAS CORPORATIONS.

Within the last 20 years there has been a movement on the part of gas companies to adopt carburetted water gas either in lieu of coal gas entirely, or to mix some proportionate amount of the former with the latter. This movement had its inception in America. The propriety of this policy has given rise to much controversy, the issue being the increased danger to the users from the larger amounts of carbon monoxide which carburetted gas admittedly contains. Opinion may be said to be divided on this point into two factions—viz.: (*a*) those who maintain that the policy is economically sound, and that the admixture of the gas with coal gas may be as safely used as ordinary unmixed coal gas; and (*b*) those who do not question the economic wisdom of the policy, but who assert that under present conditions the practice is likely to be attended by increased risks to the public health from small leakages in dwellings and from improper modes of consumption, and by increased fatal results in cases of large accidental leakages or misuse of gas arrangements.

The question as to the propriety and safety of using illuminating gas mixed with carburetted gas came before the English Local Government Board in August, 1897, in consequence of a communication to that Board from the borough of Stockport. A communication in the following terms was sent in reply to the borough by the Board: "The Board are satisfied from the information which they have received that the supply of 'water gas' might be attended with serious results, and they have in contemplation the appointment of a departmental committee to consider the whole question." Such a committee was appointed, with which I shall deal later; in the meantime we may consider certain statistical facts which were put before that committee, bearing on the question of increased fatality following the use of carburetted gas.

From Table I. the following facts emerge—viz., that in England and Wales, for a population equal in number to the population of London in 1896, the number of accidental cases of gas poisoning in places where coal gas alone was used, was *three* only; that in places outside London, where the same condition obtained, the total deaths numbered 4·2; and that in places outside London, where coal gas partly mixed with water gas was employed, the total deaths were 10·4. In 88 American cities supplied with coal gas only the number of deaths was three only. Following out some of these American statistics, we get closer detail in figures. In the twelfth annual report of the Gas and Electric Lighting Commissioners of the Commonwealth of Massachusetts, 1896, the Commissioners, in accordance with the requirements of Chapter 350, Section 2, of the Acts of 1888, publish information respecting the cases reported of death and bodily injuries from gas poisoning during that year. Therein it is stated that the attention of the board had been called to 76 different cases of escaping gas, from which the deaths of 51 persons and bodily injury of 118 persons resulted. In the preceding years, 1893, 1894, and 1895, in the same State, the deaths from this cause numbered 23, 23, and 22 respectively. In the thirteenth report for 1897 it is

TABLE I.—*Taken from a Memorandum prepared for the Water-Gas Committee by Dr. J. S. Haldane (Appendix I., p. 71).*

Place.	Kind of gas distributed.	Annual deaths by gas poisoning for a gas distribution equal to that of London in 1896.		Annual deaths by gas poisoning for a population equal to that of London (6,000,000).		Years.
		Total.	Accidental.	Total.	Accidental.	
England and Wales.	Coal gas.	3	3	3	3	1886-91
England and Wales (outside London).	Coal gas only.	4·2	3·4	—	—	1896-97-98
England and Wales (outside London.)	Coal gas partly mixed with water gas.	10·4	9·5	—	—	1896-97-98
88 American towns.	Coal gas.	—	—	3	—	1875-85
Boston.	90 per cent. water gas.	620	400	520	300	1896-97
New York.	80 per cent. (?) water gas.	275	130	263	124	1896-97
Brooklyn.	97 per cent. water gas.	400	215	235	120	1896-97
Chicago.	100 per cent. water gas.	—	305	—	155	1890-91-92
San Francisco.	70 per cent. (?) water gas.	—	—	940	270	1895-97
Philadelphia.	38 per cent. water gas (not mixed?)	240	122	172	87	1896-97
Baltimore.	100 per cent. (?) water gas.	—	—	120	—	1895-96
Washington.	100 per cent. (?) water gas.	—	—	295	175	1896-97
Toronto.	50 per cent. water gas (mixed).	45	—	32	—	? 1897

Note.—It must be understood of this table (1) that several of the results have been calculated by Dr. Haldane from data supplied; (2) that many of them are comparative figures (*not actual results*) in order that comparisons may be instituted, founded on (*a*) proportion of gas distribution equal to that of London in 1896, and (*b*) on a population basis equal to that of London. The reason for the basis (*a*) is that the gas supply per annum per head in most American cities is so much less than that of London.

reported that 60 persons died and 74 others were injured by gas poisoning. In Boston alone 75 per cent. of these fatal cases occurred. It is noteworthy to observe that, in some of the instances in which a fatal issue ensued, conditions of comparatively free ventilation prevailed in the apartments in which the deaths took place. In other cities of the United States using admixtures of carburetted gas similar increases in the death-toll have been recorded. According to the reports of the Sanitary State Board of Health of Massachusetts and to the reports above named it is stated that in the combined populations of New York, Brooklyn, and Baltimore, amounting to 2,000,000, for the 13 years prior to the introduction of water gas (which was introduced in 1880) there had only been registered 16 cases of gas poisoning, whereas during the seven and a half years after its introduction the number of deaths from that cause had risen to 120, of which, in some of the later years of that period, New York had contributed in an individual year as many as 30 deaths. According to a statement made by Dr. James C. Bayley in a paper published in the *Medical News* of New York of August 23rd, 1902, the gas supplied by companies for illuminating purposes to all the cities of New York State consisted of carburetted water gas containing from 30 to 45 per cent. of carbon monoxide.[4]

Of Philadelphia in 1896 Dr. Cattell[5] writes: "There seems to have been recently an epidemic of accidental and suicidal deaths from illuminating gas. During 1896 the coroner held inquests on 33 cases in which death was

[4] Medical News of New York, August 23rd, 1902; THE LANCET, Oct. 11th, 1902, p. 1007.
[5] International Medical Magazine, 1897.

determined to have been directly due to this cause. . . . . Water gas is largely used in Philadelphia, and death in these cases is due to poisoning by carbon monoxide, as it forms one-third of the illuminating gas." In 1897 the deaths in that city numbered 34 from this cause, of which 14 were accidental, 18 were suicidal, and two were homicidal. In 22 cities and towns of the United States in 1889 the deaths from gas inhalation numbered 107, in 1890 they rose to 174 of which 139 were accidental, and in the first half of 1891 they numbered 100. Regarding the danger to life from the use of carburetted gas it should be noted that in the Massachusetts Commissioners' report for 1896 a minority of the Commissioners express themselves as follows: "That the increase [of deaths] is due to the substitution of 'water gas' for coal gas; that it was a mistake to allow the manufacture of water gas in 1890, which mistake it was easier then to make than it is now to remedy. The minority of the committee believing that prohibition of water gas is now a practical impossibility, suggests that an Act be passed to compel the operation of the existing coal-gas plants in Boston and the mixture of coal gas with the present gas so as to reduce the proportion of carbon monoxide in the mixture."

USE IN GREAT BRITAIN.

Here, as in America, many gas-producing companies have adopted carburetted gas plant as part of their manufacturing equipment. By the year 1898 the cities of Birmingham, Liverpool, Preston, Belfast, Dublin, and Edinburgh, with many others had adopted the use of this gas as an admixture of coal gas. Glasgow does not now supply, and has not for many years supplied, carburetted gas as a constituent part of its illuminating gas. According to a paragraph in the *British Medical Journal* of Feb. 12th, 1898, "Glasgow tried water gas for three years and renounced it, simply because it could not be produced for anything like the same price as coal gas"; and in a letter to Dr. Cayzer[6] the late Mr. Foulis, then gas engineer to that corporation, wrote as follows: "We do not now make carburetted water gas as we find it more economical for enriching purposes to make undiluted oil gas, and so, of course, we have no trouble with carbon monoxide." Edinburgh, however, adopted its use, chiefly on the strength of a report by Professor Crum Brown, already referred to. In that report Professor Crum Brown pointed out that the chief safeguard in the use of coal gas was its distinctive penetrating odour, and that the odour was mainly due to the small amount of benzene vapour existing in the gas. But he further pointed out, also, that carburetted water gas likewise contained benzene vapour and to as great an extent as in coal gas. It followed that even pure carburetted gas in the air of a room became very offensive from its smell long before it was dangerous as a poison, and the risk from its ordinary use might be neglected practically as in the case of coal gas. In the case of leakage into rooms where people were already asleep or where people were unaccustomed to the use of gas, the danger was certainly greater with carburetted water gas than with common coal gas, as the proportion of carbonic oxide was about three times as great. In the case of an admixture containing carburetted water gas and coal gas in the proportion of one volume of the former to two of the latter, the percentage of carbonic oxide would be about 17 or 18, as compared with 10 or 11 in pure coal gas. Such cases of leakage were quite exceptional and when they did occur the amount of carbonic oxide might become excessive and the danger great in a very short time, even in the case of common coal gas, so that the difference as between carburetted water gas and coal gas was small compared with the total risk. The increased amount of carbonic oxide was, therefore, no real objection to the introduction of carburetted water gas for illuminating purposes in place of coal gas. It was apparent that the drawbacks generally urged against the use of carburetted water gas were more imaginary than real. On the other hand, there were distinct advantages. From a chemical point of view the process of making illuminating gas from water gas and oil was greatly superior to that of making it from coal. In the former case great uniformity was possible, owing to the facility with which the operations could be controlled and adjusted; the process was also a very clean one and free from many of the objectionable features of coal gas making. It was claimed for carburetted water gas that it was remarkably free from sulphur compounds; that was to be expected, as practically all the sulphur compounds in the coke and oil must be converted into sulphuretted hydrogen, which is easily removable. Such was the burden of the report. Edinburgh has thus been supplying more or less carburetted gas in its illuminating gas-supply for the past nine years, but, as may be seen in Table VIII., only in relatively small proportions.

In several towns and cities using carburetted gas fatal gas poisonings have occurred. In Liverpool, for example, the following cases have been recorded. Four men were occupying a room of 963 cubic feet capacity which had no fireplace but which was provided with two ventilators. In the morning the gas-light was found to be extinguished, although the gas was still turned on, and the window and the larger ventilator were found to be closed. One of the men was found to be dead and his three companions to be unconscious. It was supposed that one of the men had extinguished the light by blowing it out. The body of the deceased man bore externally the distinguishing characteristics of carbon monoxide poisoning. In a report to the corporation the medical officer of health stated that water gas had been supplied to parts of the city in varying proportions, and owing to the much larger amount of carbon monoxide contained in the water gas over ordinary coal gas that the danger to the inhabitants in the districts so supplied was correspondingly increased. Again, on Oct. 5th of this year, a family composed of a man and three children were found unconscious in the rooms occupied by them which were found to be filled with the fumes of gas. The man died soon after, notwithstanding the use of restorative measures. It was reported later that a second victim had succumbed. In the newspaper recording the incident it is noted that some time ago the attention of the city council had been called to the dangers of water gas in Liverpool and the question was being asked whether this gas had anything to do with this mishap. Fatal cases have likewise been reported from Belfast, Dublin, and other places, some of which will be referred to later.

In accordance with the declared intention of the English Local Government Board a departmental committee was appointed in 1898 to consider the question of water gas. Its members were Lord Belper, who was chairman, Sir William Ramsay, Dr. Haldane and Dr. H. F. Parsons, and Mr. Cunynghame of the Home Office. The report of the committee, after hearing evidence, was published in 1899 and the substance of its recommendations was as follows: 1. That it should be illegal for any person to make and distribute for heating and lighting purposes any poisonous gas which does not possess a distinct and pungent smell. 2. That all persons applying for statutory powers to make and distribute gas should be required to state in their application the kind of gas which they propose to sell—viz., whether ordinary coal gas, carburetted water gas, plain water gas, or other variety of gas—separately or mixed. 3. That before any kind of water gas is distributed in any place due public notice of the proposal should be required to be given and that so long as there is any water gas in a gas supply that fact should be stated on every demand note. 4. That where water gas is distributed records should be kept by the producer showing the respective amounts of the gases issued day by day, distinguishing the gas supplied to each area (if more than one and separately served) and the day and night supply; that these records should at all times be open to inspection by any gas consumer or ratepayer of the district and should be published quarterly in a local newspaper; and that a new column should be added to the annual returns made by the Board of Trade giving the total amount of water gas issued as compared with coal gas. 5. That power be conferred on a central department to make regulations enforceable by adequate penalties, limiting the proportion of carbonic oxide in the public gas supply at 12 per cent., or such greater amount as the department may consider desirable. These regulations might be applicable either generally over the United Kingdom or to any particular locality, and might contain such conditions, if any, as appeared necessary. 6 That powers should also be given for the regulation of the distribution and use of gas by means of by-laws, made subject to the approval of a central department and administered under local control. The matters to be so dealt with might include the following: the hours during which, or the arrangements by which, the limit imposed on carbonic oxide should be enforced; the use in emergencies of more than the authorised proportion of carbonic oxide; the character of the gas-burners, fittings, and apparatus to be used having regard to the circumstances of their employment; the testing of the gas; and other

[6] On Carburetted Water Gas and Carbon Monoxide Poisoning, fourth edition, 1898.

similar questions. 7. That the provisions of Sections 28 to 34 of the Gasworks Clauses Act, 1871, should be made applicable to the testing of gas for carbonic oxide, and that in all cases where a limit has been placed on the carbonic oxide in the gas supply of a locality there should be some person empowered and required to test for carbonic oxide and to publish the results periodically. Lastly, that some steps should be taken to secure that the verdicts (of coroners' juries) should lend themselves more readily to clear classification by the Registrar-General, and, in particular, that in every case where the coroner is in possession of a medical certificate of death or where medical evidence has been taken at the inquest, a copy of that certificate, or an abstract of that evidence, should be appended to the coroner's certificate when sent to the Registrar-General. The only outcome of the work of that Commission, so far as we can gather, has been the incorporation in the Board of Trade returns of information concerning the amounts of carburetted water gas made and used by gas undertakers.

The following tables which have been compiled from the Board of Trade returns for 1904 and 1905 serve to illustrate, among others, the following points, viz.: (*a*) the increase in manufacture and supply of water gas in the United Kingdom; and (*b*) the percentage admixtures of water gas with coal gas in different cities and towns in the kingdom.

TABLE II.—*Comparative Table for the United Kingdom for the Year 1904 (Gas Undertakings other than Local Authorities).*

Year.	Number of gas undertakings other than those of local authorities.	Number of cubic feet of gas made.	
		Coal gas.	Water gas.
1898	439	(*a*) 86,705,723	(*b*) 5,125,804
1903	459	(*a*) 101,490,084	(*b*) 13,056,741
1904	469	(*c*) 91,193,123	(*b*) 13,718,857

(*a*), Including water gas; (*b*), amount of water gas supplied; (*c*), coal gas only.

TABLE III.—*Showing Percentage Amounts of Water Gas admixed with Coal Gas in Supplies of Illuminating Gas by Gas Companies other than Local Authorities.*

Place.	Percentage.
Maidenhead	40
Falmouth	33
Durham	20
Barking	17
Hartlepool	20
Colchester	26
Ilford	21
Les Bridge	40
Romford	29
Southend	50
Waltham Abbey	3
West Ham	29
Merthyr Tydvil...	31
Swansea	25
Bournemouth	30
Gosport...	30
Portsea...	24
Southamptom	35
Winchester...	8
Watford	32
Dartford	27
Faversham	15
Tottenham	54
Newport (Mon.)...	27
Norwich	52
Rushden	25
Newcastle	7
Bath	50
Taunton	35
Bilston	10
Caterham	20
Croydon	41 (average 35)
Dorking	50
Epsom	34
Guildford	25 to 33
Folkestone	50
Gravesend	33
Rochester	27
Tonbridge	25
Tunbridge Wells... ...	25 to 30
Liverpool	50
Preston	36
Ramsbottom...	25
Stretford	33
Cleethorpes	15
London:—*	
Commercial	38 (average 28)
South Suburban	36
Wandsworth	41
Brentford	40
Hampton Court	30
Harrow	48
Hornsey...	46
North Middlesex	54
Southgate	61
Staines	25
Kingston-upon-Thames ...	24
Wimbledon	36
Redhill	35
Bexhill	41
Brighton	38
Eastbourne	20 to 30
Hastings	45 (average 28)
Horsham	40
Bridlington	33
Hull...	32
Malton	22
Scarborough...	23
York	21

* Of the total quantity of gas sent out 11 per cent. was unmixed with water gas. Of the remainder 62 per cent. contained a maximum proportion of 29 per cent. of water gas; 9 per cent. a maximum proportion of 33 per cent.; 8 per cent. a maximum proportion of 37 per cent.; 12 per cent. a maximum proportion of 37 per cent.; and 9 per cent. a maximum proportion of 41 per cent.

TABLE IV.—*In Scotland.*

No private gas undertaking supplied carburetted water gas.

TABLE V.—*In Ireland.*

Place.	Percentage.
Dublin	47
Londonderry	20
Wexford	20

The next series of tables shows the same facts with respect to gas undertakings by local authorities as the former do with respect to gas undertakings other than those by local authorities.

TABLE VI.—*Comparative Table of Gas Undertakings by Local Authorities.*

Year.	Number of gas undertakings.	Number of cubic feet of gas made.	
		Coal gas.	Water gas.
1898-99 ...	222	(*a*) 51,441,272	2,278,390
1903-04 ...	280	(*a*) 62,717,759	4,850,007
1904-05 ...	265	(*b*) 58,302,053	5,033,643

(*a*), Total amount of gas, including water gas; (*b*), coal gas only.

TABLE VII.—*Showing Percentage Amounts of Water Gas admixed with Coal Gas in Supplies of Illuminating Gas by Local Authorities who are Gas Undertakers.*

In England and Wales (1905).

Place.	Percentage.
Stockport	25
Carlisle	28
Stockton-on-Tees	21
Accrington	20
Barrow	14
Blackburn	25
Burnley	34
Chorley	20
Manchester (Bradford-road Works)	37
Manchester, in total	22
Oldham	41*
Southport	56
Todmorden	20
Loughborough...	21
Leicester	12
Lincoln (day)	33
,, (night) ...	None.
Nottingham	Inappreciable.
Longton	33
Smethwick	12·5
Stafford	20·3
Tipton...	Not stated.
West Bromwich	18·5
Birmingham	25
Coventry	35·66
Oldbury	20
Halifax	20
Hebden Bridge	20 to 25
Leeds	25
Middlesbrough ...	No limit.

* At one station only on one day only.

TABLE VIII.—*In Scotland (1905).*

Place.	Percentage.	Place.	Percentage.
Dundee	25	Paisley	4 (oil gas).
Edinburgh and Leith ...	4·23	,, ...	1·77 (water gas).

TABLE IX.—*In Ireland (1905).*

Place.	Percentage.
Belfast	52·2

From a statistical consideration of the foregoing Parliamentary returns for 1904 it will be found that of 454 gas undertakers other than local authorities in England and Wales, 68 supply some measure of admixed carburetted water gas in their illuminating gas supply, or, approximately, 15 per cent. of the total number of producers in this class; that in Ireland, of ten undertakings three supply some admixture, or nearly one-third of the whole; and that in Scotland, of five producers none supply any proportion of carburetted gas.

From the returns for 1905 of local authorities who are gas undertakers, it will be found that of 208 local authorities in England and Wales 28, or approximately 13·5 per cent., provide admixtures; in Scotland, of 46 corporations, three only, or 6·5 per cent., supply admixtures; and in Ireland, of 11 municipal producers, only one, or 9 per cent., provides admixture of carburetted gas with coal gas.

The percentage amounts of carburetted gas in the admixtures actually purveyed by gas undertakers other than local authorities in England and Wales vary considerably. These range from 3 per cent. in Waltham up to 60·7 per cent. in

Southgate. Southend, Liverpool, North Middlesex, Tottenham, Norwich, Bath, and Dorking supply admixtures containing carburetted gas to the extent of between 50 and 60 per cent.; Maidenhead, Lea Bridge, Folkestone, Wandsworth, Brentford, Harrow, Hornsey, Croydon, Bexhill, Hastings, and Horsham, between 40 and 50 per cent.; Falmouth, Bournemouth, Gosport, Watford, Gravesend, Preston, Stretford, London (Commercial and South Suburban), Hampton Court, Taunton, Epsom, Wimbledon, Redhill, Brighton, Bridlington, and Hull Station, between 30 and 40 per cent.; while Durham, Hartlepool, Colchester, Ilford, Romford, West Ham, Swansea, Dartford, Chatham, Tonbridge, Ramsbottom, Staines, Newport (Mon.), Rushden, Newcastle, Caterham, Guildford, Kingston-upon-Thames, Eastbourne, Malton, Scarborough, and York add only between 20 and 30 per cent. The remainder supply less than 20 per cent. In Scotland, as has been noted, no company in this class purveys carburetted water gas. In Ireland, the percentages run from 47 per cent. in Dublin to 20 per cent. in Londonderry and Wexford.

The percentage admixtures actually supplied by local authorities who are gas undertakers in England and Wales vary from 12 per cent. in Leicester to 55·86 in Southport. Oldham supplies between 40 and 50 per cent.; Burnley, Manchester, Lincoln, Longton, and Coventry between 30 and 40 per cent.; Stockport, Carlisle, Stockton-on-Tees, Accrington, Blackburn, Chorley, Todmorden, Loughborough, Stafford, Birmingham, Oldbury, Halifax, Hebden Bridge, and Leeds between 20 and 30 per cent.; and the remainder less than 20 per cent. Of the three municipal undertakers in Scotland, Dundee adds 25 per cent., Edinburgh 4·23 per cent., and Paisley less than 2 per cent. of carburetted water gas.

From the comparative tables (II. and VI.) it will be seen that the total annual output of this gas, by both private and municipal undertakers is on the increase. In 1898 the number of private undertakers being 439, the total output of carburetted water gas was a little over 5,000,000 of cubic feet, whereas in 1904 the number of undertakings having only increased by 30, the output had risen to 13·5 millions of cubic feet. Respecting the corporation gas undertakings it will be perceived that in 1898–99 the number of undertakers was 222 and the total output of water gas was 2·25 millions of cubic feet, whereas in 1904–05 the number of undertakings having risen to 265, the output has increased to over 5,000,000 of cubic feet.

FITNESS OF CARBURETTED WATER GAS FOR DOMESTIC LIGHTING PURPOSES.

It is not my intention under this heading to discuss the question of fitness from the economic point of view, but solely from the public health standpoint, because it appears to me that the latter is much the more important. But in passing it may be observed, judging from the opinion of the Glasgow gas authority, that difference of view may even be entertained regarding the relative cost of production of water gas and coal gas. But, however that may be, there would seem to be some difference of opinion among experts even regarding the risks of admixture of water gas with coal gas to the users. Professor Crum Brown, in his advice to the Edinburgh gas authority, is said to have reported that the increased amount of carbonic oxide in a mixture containing carburetted water gas and coal gas in the proportion of one volume of the former to two of the latter, and in which the carbonic oxide would be about 17 or 18 per cent. as compared with 10 or 11 per cent. in pure coal gas (which last figures are above the average), "was no real objection to the introduction of carburetted water gas for illuminating purposes in place of coal gas," and that "the drawbacks generally urged against the use of carburetted water gas were more imaginary than real."

This opinion seems at first sight incompatible with another statement in the same report—viz.: "In the case of leakage into rooms where people are already asleep, or where people were unaccustomed to the use of gas, the danger was certainly greater with carburetted water gas than with common coal gas, as the proportion of carbonic oxide was about three times as great." It is obvious that the writer had in his mind the use of carburetted water gas conveyed in gas-tight pipes and fittings and an intelligent use of the commodity by the users. If we could assume, or even if experience showed, that all pipes and fittings were sound and would continue in that condition, and that all users of gas were intelligent and careful in its use, then, so far as safety to health and life were concerned, all would be agreed as to the absence of increased danger, no matter the composition of the illuminant used. But this is precisely what does not exist and cannot be secured. Pipes will grow old; fractures and corrosions of fittings will occur; accidents, trivial in themselves, will take place; there will always be careless users; and therefore in average circumstances we are compelled to assume increased risks to health and life whenever additions of carbonic oxide are made to illuminating gas. In Great Britain, moreover, another condition relative to ownership of fittings and pipes probably tends to neglect of pipes, and that is that the control of the gas authority stops at the door of the house, if we except the gas-registering apparatus; in other words, the gas authority may lay main pipes and may make branch-pipe connexions to dwellings, but they have no control over the fittings within the dwellings, their safeguard being that all gas registered in the gas-meter must be paid for by the occupant. This, however, is not always the same thing as saying that all gas registered in the meter has been consumed.

The findings of the Departmental Committee being to the effect that the adoption of carburetted water gas by the gas companies of this country created an increased risk of danger to health and life, because of the increased content of carbon monoxide, seem to me to be most reasonable; and this is especially true of the finding which proposes that the proportion of that gas in the night-supply should be limited to 12 per cent., "or such greater amount as the department may consider desirable." And when we consider the want of average display of intelligence on the part of some users of gas, and the condition of the fittings in many places, we cannot but consider this proposal as other than most reasonable. The question arises, however, whether the proposals should end where the report of the committee left them. Should it arise that necessity prompts municipal authorities more generally to adopt the use of carburetted gas, ought not the use to be placed under State-regulated enactments such as pertain, for example, in the Public Health Acts respecting the internal drainage systems of dwellings? It would, in my opinion, be most desirable to enact by statute that before carburetted water gas was supplied to new buildings the pipes and internal fittings thereof should be inspected by a municipal officer or officer of the gas company before being allowed to be used, that in all old buildings the existing fittings should be initially inspected, and that in all buildings used as dwelling-houses in which the gas is employed as an illuminating agent, heating agent, or motive power, powers of periodic inspection by the gas authorities should be given and should be exercised. From my experience it has been forced upon me that these powers, and especially the last-named, should be made part of an Act and should become obligatory on the local authority acting as gas commissioners or upon gas companies. In all modern by-laws respecting the water-supply of houses the local authority has the power to determine what weight of pipes and what kinds of fittings shall be used. The only patent reason for this is the prevention of loss of water by insufficient fittings. There has never been, to my knowledge, any serious objection offered to such by-laws, because they commend themselves as reasonable. In the same way, by-laws may be made by the same authorities respecting the pipes and fittings of houses relative to house drainage for the purpose of preventing disease, or, to put it in other words, to protect the health of the occupants. How much more important in comparison to water fittings, from breach of which no direct injury to health is likely to follow, is appropriateness of gas fittings, especially where carburetted water gas is to be used, from breaches or defects of which impairment of health is certain to follow and loss of life itself is not improbable. It appears to me, then, that the purveying of gas rich in carburetted water gas should be accompanied by inspection of gas fittings inside dwellings, just as there is power of inspection over pipes outside dwellings, on the simple ground of increased possible risk from the substance purveyed. Logically, if the legislature believes it to be desirable to grant powers of inspection of the sanitary fittings of a dwelling where the risks from want of integrity are relatively remote and indirect, it should also give and demand powers of inspection of gas fittings for the use of carburetted water gas where the risks to health from defects or insufficiency of fittings are direct, even to the extent of loss of lives.

(*To be continued.*)

ON A NEW SYNTHESIS OF TYROSINE.

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DOWNING PROFESSOR OF MEDICINE, UNIVERSITY OF CAMBRIDGE, 1874–94; CONSULTING PHYSICIAN TO ADDENBROOKE'S HOSPITAL, CAMBRIDGE.

IN THE LANCET of Dec. 16th, 1905, p. 1757, I described a new method for the synthesis of tyrosine from anhydrous prussic acid and *p*-oxy-benzaldehyde; a method not only interesting in itself but, as I suggested, affording an explanation of the mode of formation of tyrosine in the animal body—namely, by the combination of adenine with the above-mentioned aldehyde.

In the section on p. 1759, describing the mode of directly transforming *p*-oxy-benzoyl-amino-cinnamic acid into tyrosine, there is an important clerical error with regard to the amount of barium hydrate which was employed and which is there stated to be "about 6·0 grammes." The amount should be 2·25 grammes. On making a number of further experiments with fresh materials I found that if more than 2·25 grammes are employed little or no tyrosine is produced, as an excess of hydrogen is liberated and the reduction of the *p*-oxy-benzoyl-amino-cinnamic acid is carried too far. This error, however, has been turned to good account and has led me to an improved and much more simple method. After making several experiments it occurred to me to dispense altogether with the barium hydrate and to try what action potassium cyanide alone would have upon the oxy-acid. The result was most satisfactory. Not only is the *p* oxy-benzoyl-amino-cinnamic acid reduced by the cyanide to benzoyl tyrosine, but the latter is also simultaneously decomposed into tyrosine and benzoic acid, a result I had not anticipated. The following are the changes:—

$$2KCN + 4H_2O = \underset{\text{Potassium formate.}}{(H.COO)_2K_2} + 2NH_3$$

$$= H_2 + \underset{\text{Potassium oxalate.}}{(COO)_2K_2} + 2NH_3$$

and

$$OH.C_6H_4.CH:C(NH.CO.C_6H_5).COOH + H_2$$

p-oxy-benzoyl-amino-cinnamic acid.

$$= \underset{\text{Benzoyl tyrosine.}}{OH.C_6H_4.CH_2.CH(NH.CO.C_6H_5).COOH}$$

which acted upon by the ammonia and water is resolved into

$$\underset{\text{Tyrosine.}}{OH.C_6H_4.CH_2.CH(NH_2)COOH} \quad \text{and} \quad \underset{\text{Ammonium benzoate.}}{C_6H_5.COONH_4}$$

The process, therefore, is much simplified and the yield of tyrosine is greater than when the barium hydrate is used. The only drawback is that the amount of colouring matter is considerable and necessitates a large dilution of the contents of the combustion tube before decolourising with animal charcoal, as well as two or three re-crystallisations, each involving marked loss in the product.

I have made a number of experiments with different proportions of KCN at various temperatures and with varying results. The following, however, are the details of the experiment which yielded the best result, the proportion of the oxy-acid to the KCN employed being one molecule of the former and three molecules (instead of two) of the latter. 7·1 grammes of *p*-oxy-benzoyl-amino-cinnamic acid together with five grammes of KCN (98 per cent.) were placed in a combustion tube and to this mixture 48 cubic centimetres of hot water were added. The tube was then sealed (the contents occupying about one-half its capacity) and heated for three hours to a temperature gradually rising from 130° to 170° C. The temperature was then raised and maintained for four and a half hours between 175° and 182° C. On opening the tube there was a free escape of ammonia. The contents of the tube were washed out with hot water and well diluted, so that the total amount measured 300 cubic centimetres. The dark solution was filtered and then placed in a water bath (100° C.) with animal charcoal for half an hour, and again filtered and evaporated to dryness at 100°. The residue (still coloured) was then treated with small quantities of *cold* water to dissolve out the potassium oxalate, &c., and the solution aspirated, leaving the impure tyrosine behind. This was now dissolved in dilute aqueous ammonia, filtered, and then evaporated in the water bath to about 36 cubic centimetres when crystals of tyrosine began to form on the margin of the liquid. The solution whilst hot was poured into a watch glass and set aside for 12 hours, when the tyrosine was found to have crystallised out almost completely in the form of beautiful silky colourless sheaves of needles. The mother liquor was then separated by aspiration with a pipette. The yield of tyrosine in this experiment was 0·6 gramme, being 13·2 per cent. of the theoretical amount—that is, 4·54 grammes. Its melting point was found to be 237° C. and Millon's and Piria's tests gave the usual reactions.

Mr. M. M. Pattison Muir, to whose valuable help and encouragement in this investigation I have been greatly indebted, kindly undertook to analyse some of the specimens for me. The following are the details of his analysis. On combustion, 0·1785 gramme yielded 0·3862 gramme CO_2 and 0·1002 gramme H_2O. For the nitrogen determination 0·2055 gramme yielded 13·4 cubic centimetres of nitrogen at 20° C. and 774 millimetres pressure.

	Calculated for $C_9H_{11}NO_3$	Obtained. I.	Obtained. II.
C	59·67	59·00	—
H	6·08	6·23	—
N	7·74	—	7·72

Cambridge.

A CASE OF EPILEPTIC IDIOCY ASSOCIATED WITH TUBEROSE SCLEROSIS OF THE BRAIN.

BY MARGARET B. DOBSON, M.D. LOND.,
PATHOLOGIST TO THE WEST RIDING ASYLUM, WAKEFIELD.

THE patient, a male epileptic idiot, was admitted into the West Riding Asylum, Wakefield, on Feb. 16th, 1901. He died on May 25th, 1906, aged ten years, from pneumonia, accelerated by exhaustion from epilepsy.

Family history.—The mother is of a nervous temperament and the father suffers from a "weak chest." A brother, aged seven years, suffers from epileptic fits and is extremely impulsive and emotional. Two maternal uncles died from convulsions at the age of two years and four months and one year and four months respectively. A paternal uncle was intemperate and died from pulmonary tuberculosis and three paternal aunts died from the same disease. A maternal great-uncle was addicted to alcoholic excess and is now in an asylum suffering from general paralysis of the insane. A maternal great-aunt was an inmate of the West Riding Asylum, Wakefield, in 1886–87, suffering from alcoholic pseudo-paralytic dementia.

Clinical history.—The patient was healthy and well formed at birth. Labour was normal, no forceps being used. He was the eldest of four living children. At the age of three or four weeks "twitching of the face and nodding of the head" was noticed. Convulsions resembling those of idiopathic epilepsy commenced one year after birth. The patient's mental condition on admission to the asylum was as follows. He was a low grade idiot and was unable to do anything for himself. He would grasp and pull to pieces or twist anything that was given to him. He made inarticulate noises and was quite incapable of answering the simplest questions. In his habits he was wet and dirty. As regards his physical condition he was below the average size, the frontal region of the skull was prominent, and his head was of the usual size. The palate was of the low, broad type. The teeth were good. The lobules of the ears were deficient. He suffered from the somewhat rare skin affection known as adenoma sebaceum. Little nodules were noticed on his face, occupying chiefly the cheeks and naso-labial folds; a few were noticed on the forehead. The nodules had a symmetrical distribution on the lower part of the face: their consistence was hard, their surfaces were smooth and dome-shaped, and the skin over them showed no blocked sebaceous duct. Vascular telangiectases around and between these nodules gave the patient a pink flushed look. The heart and lungs were normal. No sensory abnormal symptoms were noticed during life. His gait was peculiar in that he had a tendency to walk on his toes and seemed incapable of walking in a straight line; he would rotate

round any fixed object on the floor in a direction from right to left. He suffered from epileptic seizures of the *grand mal* and *petit mal* type. The convulsions were frequently preceded by a shrill cry and affected both sides of the body equally. The average number of fits were from two to six per diem.

Post-mortem examination.—The skull was symmetrical. The calvarium was thicker than normal; the diploë was increased and somewhat congested. The inner surface was smooth and not adherent to the underlying dura mater. The dura mater presented no pathological change and the sub-dural fluid was not in excess. The pia-arachnoid was healthy looking except over the sclerosed areas of the brain, to be described below; it was here remarkably like tissue paper and stripped from the underlying cortex much more readily than elsewhere. Over the umbilications, however, it was firmly adherent. The brain weighed 1000 grammes; the right hemisphere, including the corresponding half of the cerebellum, pons, and medulla, weighed 500 grammes, and the left hemisphere weighed 495 grammes. The hemispheres were fairly symmetrical, the convolutions and sulci being well formed and complicated. On close examination of the cortex large, white, granular-looking, and exceedingly hard areas were found, occupying more especially the fronto-parietal and temporo-sphenoidal lobes of both hemispheres. These sclerosed areas protruded slightly above the general surface of the brain and a few showed central umbilication. On section these areas showed considerable cortical hypertrophy; they were white in colour, and the normal striations were almost absent. The cortex was badly defined and tended to pass gradually into the underlying medulla. The transition from normal to sclerosed cortex was sharp. The vessels of the medulla, more especially in the occipital regions, were surrounded by collars of gelatinous looking material. The lateral ventricles were not dilated. The choroid plexuses were healthy. Under the ependymal lining, which was smooth and glistening, hard, white, nodular growths were seen (varying in size from that of a pin's head to that of a small hazel nut) projecting into the ventricular cavity. These growths occurred in the groove between the caudate nucleus and the optic thalamus and appeared to run along the course of, and to be intimately connected with, the vein of the corpus striatum. Two very tiny growths appeared on the wall of the third ventricle; the fourth ventricle was healthy. No pathological change was noticed in the cerebellum, pons, or medulla. Red hepatisation of both lungs was present. No change of any interest was found in the other organs of the body.

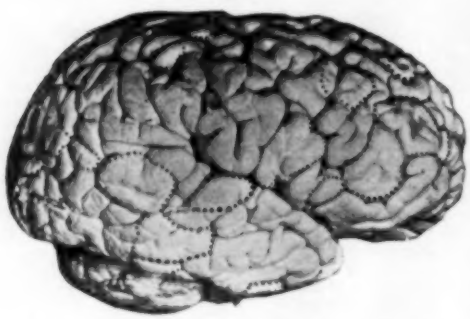
Micro-scopical examination.—(1) *The areas of sclerosis*.—The sclerotic areas presented a firm, dense net-work of fibres quite devoid of cells. In other parts, where the sclerotic process was less advanced, the fibres were more closely interwoven. The matrix was mottled, and scattered singly and in groups were very large, irregularly shaped "giant" cells, the protoplasm of which stained uniformly by the aniline blue-black fresh method of Bevan-Lewis and also by the Nissl method. In more normal parts of the section the pyramidal cells had undergone advanced degeneration; they had a battered look, the nuclei were displaced and chromatolysis was well marked. The dendrites were few in number and the axis-cylinder was broken. Vacuolation was not present. The neuroglial cells were increased in size and number but not to any great extent. The blood-vessels were contained in dilated perivascular sheaths. Near the surface aggregations of hæmatoidin crystals were seen.

(2) *Sub ependymal tumours*.—The tumours were covered by a single layer of columnar-shaped epithelial cells. Beneath this healthy ependymal lining a firm, dense mesh-work of fibres, containing numerous cells, was seen. The blood-vessels in this layer were fairly numerous and were contained

FIG. 1.

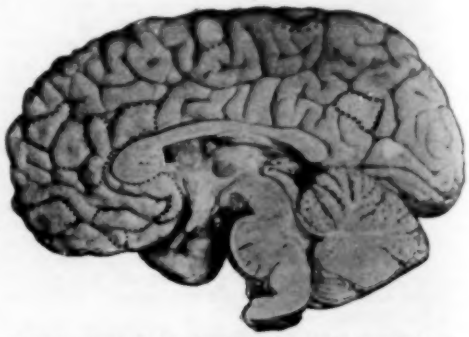
Right hemisphere covered with pia-arachnoid of a tissue-paper like appearance over the areas of sclerosis in frontal region.

FIG. 2.



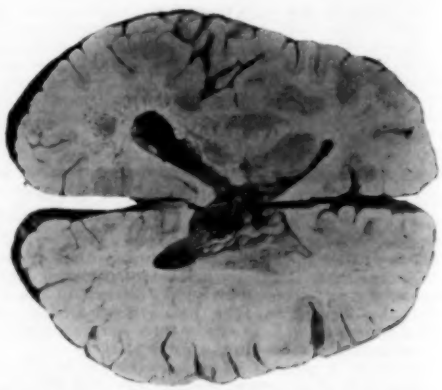
Right hemisphere. The dotted lines mark the boundaries of sclerosed areas of outer surface.

FIG. 3.



Right hemisphere. The dotted lines mark the boundaries of sclerosed areas of inner surface.

FIG. 4.



Section through lateral ventricles of brain showing sub-ependymal tumours. Blood-vessels of medulla are surrounded by collars of mucoid material.

in dilated perivascular canals. The main growth beneath this layer was composed of coarse connective tissue, the blood-vessels of which had thick diseased coats, the lumen being almost entirely obliterated in some instances. Around and apparently in close connexion with the vessels an extraordinary number of amyloid bodies with concentric markings were found. The margins of a few were crenulated.

(3) *Blood-vessels of the medulla.*—The vessels were contained in round wide spaces. Surrounding the vessel wall and occupying this space were found cells having long, delicate intertwining branches. The appearance suggested myxomatous degeneration of the adventitial coat.

Wakefield.

A CASE IN WHICH ACUTE APPENDICITIS AND A TWISTED OVARIAN PEDICLE EXISTED AT THE SAME TIME.

BY JOHN CAHILL, M.D. DURH., F.R.C.S. ENG.,

AND

SIR WILLIAM H. BENNETT, K.C.V.O., F.R.C.S. ENG.,

CONSULTING SURGEON TO ST. GEORGE'S HOSPITAL.

THE subject of this communication is a young woman who had been under the observation of Dr. Cahill since her early childhood. Until the sudden onset of the illness about to be described she had never exhibited any symptom of any pelvic disorder, although she had always been of active habits and accustomed to dancing, bicycling, riding and other forms of exercise.

The patient, aged 17 years and apparently in good health, was seized with severe abdominal pain during the night of June 8th, 1905. When seen on the morning of the 9th she was in great distress and had for some hours been vomiting at frequent intervals a considerable quantity of bile-stained mucus. The bowels had acted for the last time on the previous day. On examination the abdomen was moderately distended, the respiratory movements were very slightly limited, and some tenderness and resistance over the right iliac fossa were manifest but no dulness could be detected. The temperature was 98·4° F. and the pulse was 90. An enema brought away a large solid motion, and a considerable amount of loose fæcal matter was evacuated later after further enemata. On the 10th the temperature was 98·8° and the pulse was 92; the abdominal pain and the sickness continued. At this time the necessity for the consideration of operative interference was pointed out and explained, but this suggestion was not acceded to in spite of the warning that the case was a grave one. The distension increased rapidly, rigidity of the abdominal muscles became evident and great tenderness over the entire right half of the abdomen supervened. Pain immediately before and during micturition followed and continued without abatement until the date of the operation which was ultimately performed. On this day (June 10th) the patient was seen by Sir William Broadbent and the following treatment was adopted: a pill of belladonna, morphine, and salol was given every four hours, an ice-bag was placed over the right iliac fossa, and a nutrient enema was administered every four hours. On the same evening the temperature was 98·2° and the pulse was 100. From this date the vomiting ceased. On the 11th the rigidity and tenderness had extended over the whole abdomen; the pain was incessant and very severe; the temperature rose to 101·8°, and the pulse was 120. Urgent suggestions of surgical aid were still declined. Four leeches were then applied over the right side of the abdomen. Menstruation had commenced during the previous night and it continued during the next three days. The progress of the case continued upon the same lines as before, under the same treatment, and there was increased tenderness with infiltration of the subcutaneous tissues about the right loin and groin. The temperature became persistently higher and the general condition more grave. On the 14th the patient was seen by Sir William Bennett, who urged immediate operation. Another day's delay was, however, unavoidable and the operation was performed on the afternoon of the 15th with the assistance of Dr. Cahill, the anæsthetic being administered by Dr. F. W. Hewitt. Upon exploring the cæcal region by the usual incision the appendix, which lay posteriorly, intimately matted to the bowel and all the parts around by firm adhesions, was with some difficulty freed and removed. It showed a tight constriction at a quarter of an inch from its junction with the cæcum and another towards its distal end. Between these points it was greatly distended with pus and its wall showed all the conditions of very chronic disease. The extreme distal end was little more than a fibrous cord. No suppuration had occurred outside the appendix itself, but the intestinal coils around were greatly injected and matted by recent adhesions. Upon making the usual further examination of the abdominal cavity a dark firm mass was found occupying the upper part of the pelvis and intimately adherent to the rectum, the uterus, and the bladder. After a considerable extension of the abdominal incision this mass was with very great difficulty separated from the parts with which it was matted and was brought up to the wound. It proved to be an ovarian cyst of about the size of a cocoanut, with a very thick pedicle which had become twisted upon itself for about three-quarters of a complete turn. Its walls were thin and blackish and its contents mainly decomposing blood. The pedicle was ligatured in the usual way and the cyst was removed. The operation, which was necessarily prolonged, was well borne and the subsequent progress was steady and uneventful.

Remarks by Dr. CAHILL.—This case illustrates a difficulty which not unfrequently arises in private practice to prevent the timely treatment of serious internal lesions. The patient's ultimate recovery was undoubtedly very gravely jeopardised by the determined opposition with which the most urgent proposals for surgical treatment were persistently met. It is somewhat remarkable that the severe double operation was so well borne after six days of suffering from acute peritonitis. The situation of the cyst in this case was, I believe, rather unusual in that it was firmly wedged in between the bladder and the uterus, being adherent to the rectum only above the level of the fundus uteri. More recently I have had under my care a case of recurrent pelvic inflammation in which an unsuspected ovarian cyst with torsion of the pedicle was removed by Dr. A. F. Stabb, but in that instance the tumour was firmly impacted in Douglas's pouch, a position which is more frequent.

Remarks by Sir WILLIAM BENNETT.—The association of acute appendicitis with a twisted ovarian pedicle must be a very rare condition, for although cases in which appendicitis has been diagnosed and a twisted ovarian pedicle found upon exploration, the appendix being unaffected, are not altogether rare, I have in the course of a very large experience of abdominal surgery never before met with a case in which operation revealed the two conditions existing at the same time. The question as to which of the two lesions was primary in the present instance is interesting and there seems to be little doubt, judging from the chronic nature of the abscess in the appendix and the extensive localised peritonitis around that structure, that an acute change in the appendix condition led, probably as a consequence of sudden violent intestinal contortions, to a twisting of the ovarian pedicle in consequence of some displacement of the tumour. Considering the difficulty of the operation and the grave condition of the patient the uneventful recovery was not a little remarkable and adds further testimony, if such were needed, to the extraordinary power of resistance possessed by the true friend of the surgeon—the peritoneum.

THE INFLUENCE OF AN EXCESSIVE MEAT DIET ON THE OSSEOUS SYSTEM.

BY D. CHALMERS WATSON, M.D. EDIN., F.R.C.P. EDIN.

I HAVE previously submitted figures to prove that there has been a very great increase in the consumption of animal food in this country in the past 50 years. Whereas in the year 1850 the amount of meat consumed was three pounds per head per annum, in 1900 this had increased to over 50 pounds per head per annum—a very remarkable increase. It is generally admitted that the excessive use of meat is an important factor in the genesis of many symptoms of disease, more especially of those which are commonly ascribed to a gouty origin. It appears, however, to be a singular fact that in the past 50 years there has been a notable decrease in the incidence of genuine acute gout in

this country, while there has been a corresponding increased prevalence of diseases which are commonly, if somewhat arbitrarily, regarded as of gouty origin. This fact, if fact it be, suggests that there is no direct causal relationship between the consumption of meat and the occurrence of acute gout. Clinical experience further suggests that a process of evolution in disease is taking place, coincidently with, and in all probability dependent on, the altered habits—dietetic and otherwise—of the people of the present day, and it is possible that before long we may have to revise our present definitions of such terms as gout and gouty disorders. In the meantime it will be generally conceded that it is important to consider carefully the influence which changed dietetic conditions may exert on the incidence of various diseases at the present time. Among these changes the increase in the consumption of meat necessarily occupies a very prominent place. It seemed to me important to determine by observation on animals the influence of an excessive meat diet on the structure and function of the different tissues of the body, particular attention being directed to the state of the organs in the progeny of meat-fed animals.[1] The present paper deals with the influence of an excessive meat diet on the osseous system. In later communications the conditions present in other tissues will be discussed, as will also the bearing which the results appear to have on some diseased conditions in the human subject. The material employed consisted in the young of mothers fed for some weeks or months prior to pregnancy and during pregnancy and lactation on a diet of ox flesh, the animals, after weaning, being continued on the meat *régime*, an equal number of controls being taken from the young of rats fed on an exclusively bread and skim-milk diet. Both diets were given in unrestricted amount, and with the meat diet water was given *ad libitum*. Over 100 meat fed rats were utilised for the investigation, their ages ranging from one day to three months, the majority being under three weeks old at the time of death. A record was made of the naked-eye appearances of the skeleton, special attention being directed to the consistence as well as to the general appearance of the long bones, ribs, and flat bones. The tissues were fixed in formalin (5 per cent.), decalcified in weak nitric acid solution, and stained in the ordinary manner with hæmatoxylin and eosin. Sections were made through the anterior part of the cranium so as to demonstrate the conditions present in the frontal, malar, and maxillary bones; while in the case of rats aged one day, three weeks, and two months respectively sections were also made of the tibia, humerus, and ribs. Similarly prepared sections from control animals were, for comparison, mounted on the same slide

Macroscopic appearances.—The macroscopic conditions noted in the bones of the meat-fed rats vary according to the age of the animals but show throughout in a more or less marked degree the same general characteristics. The most striking feature is the marked general softness of the whole osseous system, this condition being present in every meat-fed subject. The long bones of the flesh-fed rats are distinctly softer and more pliable than are those of the bread-and-milk-fed animals; a similar condition is observed in the ribs, short bones, and cranial bones of the meat-fed rats. This soft condition is present in the bones at birth and becomes accentuated as age advances. A second striking appearance in the meat-fed animals is the darker colour of the long bones, more especially of the ribs, this being due to increased vascularity. This condition is present, in a greater or less degree, in all the meat-fed subjects which died or were killed after the second week of life. In some cases nothing further was observed in the bones of the flesh-fed rats killed, even as late as three months after birth, but in the majority of cases a third feature shows itself. During the second month various curvatures of the spine and long bones occur. These consist in marked scoliosis and lordosis with bending of the ribs at their angles, while curving of the bones of the limbs is present in a less degree. This condition of the bones is usually associated with an enlargement of the costo-chondral junction. In a small percentage of cases (about 15 per cent.) an additional feature is the presence of small white nodules in the bony ribs, these nodules standing out as pale bead like prominences in the substance of the dark bone of the rib. On section these nodules are composed chiefly of cartilage. In the more pronounced cases the skeletal changes generally are similar to those seen in advanced cases of rickets in the human subject. Microscopically, however, this similarity is not borne out.

Microscopic appearances.—Owing to the uniformity of the bony changes throughout the whole series of meat-fed animals it was unnecessary to make a histological examination of each subject. Sections were accordingly made from 40 out of the 100 meat-fed rats and from an equal number of control bread-and-milk-fed animals. In this examination special attention was directed to the following points: (1) long bones (the state of their development, by intra-membranous and intra-cartilaginous ossification); (2) the histological appearances of the cranial bones; and (3) ribs (the minute structure of the nodules present in the bony ribs).

1. *Long bones.*—The ossification of the long bones of meat-fed rats is delayed and imperfect, the defect involving both the endochondral and periosteal bone formation. The epiphyses are for the most part normal; in some instances there is a slight irregularity in the size and arrangement of the cartilage cells at the bone-forming margin. The minute structure of the epiphyses of the long bones may be normal, even in animals in which pronounced rachitic-like changes are present in the skeleton. The bone marrow of the meat-fed rats aged six weeks and onwards shows a great excess of fat.

2. *Cranial bones.*—In the meat-fed rats ossification, both intra-membranous and intra-cartilaginous, is less advanced than in the control animals, the bony trabecula in the former being less numerous and inclosing a marrow excessively rich in red blood corpuscles. While intra-membranous and intra cartilaginous ossification are both affected the defect is in some cases more pronounced in the periosteal bone formation. There is a striking difference in the degree of development of the frontal, malar, and maxillary bones in the bones of the meat-fed animals at birth, the contrast becoming accentuated as age advances. The bones of the jaws in the meat-fed subjects are of a different shape from the controls, the former being wider and more square-shaped. This condition is associated with an extreme thinness of the bones and a great increase in the number of cells—red blood corpuscles and leucocytes—in the medullary cavity in the meat-fed rats. In a very few animals aged three weeks the difference between the development of the bones in meat-fed and bread-and-milk-fed animals is very slight. The average state of bone development in the two series is illustrated in the figures for animals aged three weeks and three months. Observe that the bony trabeculæ in the meat-fed rats are extremely thin and that the medullary spaces show a great increase in the number of thin-walled vessels which are distended with red blood corpuscles. This increase in the number of red blood corpuscles in the medulla of meat-fed rats is in the great majority of subjects a very striking feature.

3. *The structure of the white nodules in the bony ribs.*—These nodules present a striking histological picture. They are composed mainly of cartilage cells, which are derived from the periosteum; at the periphery of these nodules the cells are undergoing transformation into bone. (Fig. 5.)

[1] This investigation was carried out in the physiological laboratory of Edinburgh University.

DESCRIPTION OF ILLUSTRATIONS ON P. 1587.

Fig. 1.—From a vertical section of the cranium of a rat, aged three weeks, unweaned; the mother fed on a meat diet. Note (1) the imperfect development of the frontal bone, which is represented by a mere shell of bone; and (2) the increase in size of the medullary cavity. Cf. Fig. 2.

Fig. 2.—From a vertical section of the cranium of a rat, aged three weeks, unweaned; the mother fed on a bread-and-milk diet. Note the frontal bone is a well-developed compact bone, with small medullary cavity and Haversian spaces. Cf. Fig. 1.

Fig. 3.—From a vertical section of the cranium of a rat, aged three months, fed on an ox-flesh diet. Note (1) the imperfect development of the frontal bone; (2) the greatly dilated medullary cavity; and (3) the catarrhal condition of the mucous membrane. Cf. Fig. 4.

Fig. 4.—From a vertical section of the cranium of a rat, aged three months, fed on a bread-and-milk diet. Note the normal state of development of the frontal bone. Cf. Fig. 3.

Fig. 5.—Longitudinal section of a bony rib of a meat-fed rat (second generation), aged three months. Note the area of cartilage cells, stained dark. The section is through one of the nodules referred to in the text. Cf. Fig. 6.

Fig. 6.—Longitudinal section of the shaft of the radius of an infant, aged 16 months, whose mother—a tuberculous subject—was fed on an excessive meat diet. Note the area of the cartilage cells in the centre of the bone.

FIG. 1.

FIG. 2.

FIG. 3.

FIG. 4

FIG. 5.

FIG. 6.

To sum up, the results show that the bones of animals fed on an excessive meat diet present an appearance of delayed and imperfect ossification with increased vascularity and an increase in the number of red blood corpuscles. Associated with this there is in a number of cases the presence in the bony ribs of nodules of cartilage, developed from the periosteum, with direct transformation of these cartilage cells into bone. It is noteworthy that, while the naked eye appearances of the skeleton may closely simulate those present in advanced cases of rickets in the human subject, the microscopic appearances in the epiphyseal lines of the long bones are quite distinct from those present in that disease. The chief object of this paper has been to describe the naked eye and microscopic appearances of the osseous system in young animals—omnivorous feeders—which are fed on a diet containing an excessive amount of meat. The full consideration of how far the facts observed admit any deductions applicable to disease in the human subject is beyond the scope of the present paper. I may here, however, refer in some detail to what, so far as I am aware, is a unique record of disease in an infant, in which the facts prove that the results of the present investigation have a real and practical value for the practitioner. The essential facts of this case are as follows.

The mother of the patient had pulmonary tuberculosis and made a satisfactory recovery under prolonged treatment along modern lines, one feature of the treatment being the daily administration of a large amount of nearly raw meat. The patient married and continued to take an excessive meat diet. A child was born after 18 months and, in view of the family history, was artificially reared under the best hygienic and general conditions. The infant thrived fairly well until a year old when there was some trouble with delayed dentition, for which the advice of the family practitioner was sought. As the application of simple remedies proved unavailing and the child became anæmic and further out of condition, a second opinion was obtained. The chief alteration in the treatment was the administration of raw-meat juice, which was continued for six weeks. Under this *régime* the condition of the child steadily deteriorated, the anæmia becoming more pronounced and being associated with marked physical and mental lethargy, fretfulness on movement, and a few purpuric and petechial spots; there were no other symptoms or physical signs of note. The child was then seen by a distinguished pediatric physician. After repeated examination of the case, which was admittedly puzzling, and examination of the blood, &c., the opinion was arrived at that the case was probably one of latent tuberculosis, probably located in the mediastinum. At this juncture I had the opportunity of seeing the patient in a non-professional capacity, and as the clinical appearances vividly recalled a clinical picture which I had frequently observed in very young rats I formed the opinion that the state of profound anæmia and physical and mental lethargy was dependent on an exhaustion of the functions of the bone marrow, thyroid gland, and other structures, consequent on the excessive meat consumption by the mother. The child died in a few days. At the post-mortem examination no trace of tuberculosis was found, nor other recognised cause of marked anæmia in children. A partial post-mortem examination only was allowed and was conducted by the consultant who had charge of the case, and who kindly gave me pieces of tissue for histological examination. The long bones were unduly soft in consistence and it is of special interest to note that the histological appearances of the radius of this child (see Fig. 6) are identical in their essential features with those which were present in the ribs of the rats.

These facts prove that the results obtained in my experimental investigation and recorded in this paper are capable of application to disease in the human subject. The importance of recognising this, both from the point of view of diagnosis and treatment, will be obvious. I desire to draw special attention to the view which is suggested by the record of facts described—viz., that in diseased conditions in early infancy attention should be directed to the dietetic conditions of the parents prior to and during gestation; and, further, that the symptoms should be critically analysed in the light of facts obtained from experimental observations on diet carried out in lower animals. I have pleasure in expressing my indebtedness to Dr. A. Dingwall Fordyce for much assistance in this investigation.

Edinburgh.

Clinical Notes:

MEDICAL, SURGICAL, OBSTETRICAL, AND THERAPEUTICAL.

A CASE OF LOSS OF SPEECH FROM FRIGHT; RECOVERY UNDER ETHYL CHLORIDE.

BY J. SIDNEY PEARSON, M.B. CANTAB.,
AND
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THE patient in the present case was a well-built, strong, healthy-looking man, aged 25 years. He walked up to the casualty department of St. Mary's Hospital for Women and Children, Plaistow, at 8 P.M., on Nov. 10th with his father who told us the following history. Some two hours previously his son had called to see a sick friend but was told that he had just died. He desired to see the body and when the sheet was drawn down the pennies which had been placed on the eyelids of the deceased fell off and the eyelids sprang open. This so unhinged the man's mind that he had not been able to utter a word since. In other respects he was quite normal. When we saw him he was unable to speak or to whisper any word, not even his name. He fully understood words spoken to him, though cerebration was slow. He could write from dictation but it was observed that when he was asked to write his name and address at the first attempt the last letters of words were reduplicated—e.g., "Streett" and "Plaistowwow." There was a fine tremor in the writing. He could also understand written matter and answered questions by signs. He could not repeat any word and his struggles to phonate were positively pathetic. His pupils were normal in appearance and reaction; the knee-jerks, pulse, and temperature were likewise normal. His father and his wife informed us that he took two glasses of beer a day and that he had never been the worse for drink. He did not give the appearance of being alcoholic.

We decided to give the patient an anæsthetic and before doing so informed him that afterwards he would be able to speak quite well. Rather less than five cubic centimetres of ethyl chloride were administered and complete anæsthesia was produced. In the semi-conscious state of recovery he spoke perfectly well and repeated difficult words and combinations. On complete recovery from the anæsthetic he relapsed and could only speak with difficulty. He would struggle with such words as "no" and "yes" for a long time and then produce them explosively. But the improvement was marked considering his previous condition. He was sent home with instructions to present himself on the following evening. This he did when he could talk as well as when he left us on the previous night. Ethyl chloride was again administered when there was the same perfection of speech in the recovery stage, but when the anæsthetic had passed off he could express himself quite clearly, but phonation was slow and deliberate. He had the same trouble in whispering. He was given 20 grains of potassium bromide three times a day, and three days later he presented himself quite recovered. He had a very hazy dream-like recollection of the events of the evening of his attack, being able to recall the main features only. He is one of eight children all alive and robust, and there was no history of epilepsy. Two of his sisters had chorea when children. Both his parents were healthy. The patient had never had "fits" or previous nervous manifestations.

The above case is of great interest from its rarity and the method of recovery. It is not hysterical. We are at a loss to explain the phenomenon, but one of us inclines to the idea of auto-hypnosis. The standard text-books which we have consulted do not mention such a condition.

Plaistow, E.

A CASE OF IMPACTION OF A HAT-PIN IN THE URETHRA.

BY HENRY SALOMON, M.D. VERMONT, L.R.C.P. & S. EDIN., L.F.P.S. GLASG.

ABOUT the middle of November I was called to see an old man who had difficulty in micturition from an enlarged

prostate and had been in the habit of passing a hat-pin down the urethra to "help him in passing his water." He found that this plan always relieved him, but on the present occasion he introduced the pin as far as he could when it suddenly slipped from his fingers and became "engulfed" in the urethra. I found him leaning over a table in great pain and on examining the penis, which was in a state of erection, I was able to feel the point of the pin about two inches from the meatus. Placing the patient on his back I passed one forefinger into the rectum and distinctly felt the head of the pin through the anterior wall. By pressure forwards and at the same time drawing the penis backwards with the other hand I was fortunately able to bring the point close to the orifice. Passing now a urethral forceps I was successful in seizing the point and drawing the pin out of the urethra without any laceration of the parts. If this procedure had failed I should have forced the point through the skin and drawn the pin outwards as far as the button. I should then have directed the point backwards and pushed the pin head-foremost out of the urethra.

Leicester.

A Mirror OF HOSPITAL PRACTICE, BRITISH AND FOREIGN.

Nulla autem est alia pro certo noscendi via, nisi quamplurimas et morborum et dissectionum historias, tum aliorum tum proprias collectas habere, et inter se comparare.—MORGAGNI *De Sed. et Caus. Morb.*, lib. iv., Proœmium.

ROYAL ALBERT HOSPITAL, DEVONPORT.

A CASE OF DERMOID CYST OF THE KIDNEY; MALIGNANT DEGENERATION.

(Under the care of Dr. ALONZO G. RIDER.)

FOR the notes of the case we are indebted to Mr. G. S. Thompson, house surgeon.

The patient, a porter, aged 45 years, was admitted to the Royal Albert Hospital, Devonport, on June 7th, 1906, from St. Ives, Cornwall, where he had been under the care of Mr. J. M. Nicholls His history was as follows. For over two years he had suffered from pain in the left loin which radiated above and below this region. The pain was at times referred to his left testicle. Latterly the pain had been constant; exercise had increased it considerably, whilst reclining had relieved it. During this period several attacks of hæmaturia had occurred which under treatment had subsided. He had lost flesh considerably during the last 12 months. The abdominal swelling, which was very evident on admission, had only recently been noticed by the patient. On examination a large swelling was evident in the left lumbar region, bulging the abdominal wall anteriorly, laterally, and posteriorly. To inspection and palpation the tumour was spherical in form, except anteriorly, where a depression could be felt; it was solid to the touch. The percussion note was dull, the dulness extending from under the ribs above to the iliac fossa below in a vertical direction and nearly to the mid-line anteriorly. At no time, according to the patient, had the swelling become smaller in size. There had recently been increased frequency of micturition. The pulse was 108, of normal tension, and of moderate volume. There was no arterial hypertrophy. The apex beat was imperceptible. The heart sounds were present but feeble. There was no enlargement of the heart. Sibilant rhonchi were present at the base of the right lung and moist sounds at the left base. Slight cough was present. The urine was normal in colour; it gave an acid reaction, was of specific gravity 1012, and contained no albumin or blood.

On June 15th ether was administered and the abdomen was opened on the left side over the swelling. The tumour was easily reached. In front of it was stretched the omentum, the colon being pushed to the inner side. The capsule of the sac, which was thick, on being aspirated gave exit to a pultaceous material. Gauze packs were used to shut off the abdominal cavity and the capsule was freely incised and a large quantity of material having the appearance of grey cortical cerebral substance was evacuated. This was the chief constituent of the sac. There were, however, in the centre hard nodular masses having on section an appearance somewhat similar to that of the cut surface of scirrhous carcinoma of the breast. A small piece of bone, irregular in form, was also found. The amount of material evacuated in all weighed six pounds and filled a vessel of about three litres' capacity. An attempt was made to remove the sac but owing to the deep connexions this was found to be impossible and the operation was completed by thoroughly stitching the edge of the sac to the abdominal wound.

After the operation obstinate vomiting set in which could not be controlled by any method of treatment. On the third day after the operation a piece of bowel became prolapsed between the sac and the upper end of the abdominal incision. It could not be replaced: it became very tense and showed signs of commencing strangulation so it was incised and a Paul's tube was inserted. Green bile-coloured fluid came through the tube. The bowels remained obstinately closed, the vomiting continued, and the patient died on June 24th.

Necropsy.—At the post-mortem examination the intestine above the prolapsed portion was found to be markedly distended with gas. The protruded portion proved to be a piece of the upper part of the jejunum. There were no signs of peritonitis. Below the spleen and to the left of the intestines was placed the above-mentioned sac. In endeavouring to extract it it was seen how intimately connected it was with the structures of the posterior abdominal wall; consequently it was only freed with considerable difficulty. At the posterior part of the sac were placed the remains of the kidney, the cortex of which was about half an inch in thickness at its thickest part, although very indistinct at other places. The calyces could also be identified. The origin of the growth appeared to be from the region of the renal pelvis anteriorly. The internal surface of the sac was very irregular, the surface being granular. There was no connexion between the growth and the bowel. There was compensatory hypertrophy of the opposite kidney. The other organs were normal. There were no secondary growths. A piece of the pathological tissue was sent to the Clinical Research Association which reported that the growth was a columnar-celled carcinoma.

SHEFFIELD UNION HOSPITAL.

TWO CASES OF FRIEDREICH'S ATAXIA.

(Under the care of Dr. ARTHUR HALL.)

FOR the notes of the cases we are indebted to Dr. Margaret Duncan, assistant resident medical officer.

The patients are sisters, Eleanor and Jane ——. They were admitted into the Sheffield Union Hospital in May, 1906, and the notes were made in July. The family history does not give much information. The father is alive and is 65 years old. He has always been a healthy man until lately when he developed cataract and has been operated on for this. The mother died when 41 years of age, the cause of death being unknown. There were 12 children in the family, four of whom are dead. The eldest child was a female; she is now 41 years of age and healthy. The second was a female who died from gastric ulcer, aged 35 years. The third is a female, aged 39 years, and healthy. The fourth is a male, aged 37 years, and healthy. The fifth was a female who died in childbirth at the age of 35 years. The sixth is the elder patient, Eleanor, aged 31 years. The seventh is the younger patient, Jane, aged 29 years. The eighth is a male, now 26 years of age, and healthy. The ninth is a female, aged 24 years; she is at present in hospital suffering from gastric ulcer. The tenth child was a female who died in infancy from marasmus. The other two members of the family were stillborn, and their position among the others is uncertain. There is no history of any similar complaint in any other member of the family, nor is there any evidence of syphilis, inherited or acquired, in either patient.

In the elder patient, Eleanor, the illness began when she was about 18 years of age. She was running to catch a train when she slipped and fell by the side of it and narrowly escaped being killed. She was able to get up and to walk home, but shortly afterwards she began to be very unsteady on her legs. She was treated for this at the Royal Infirmary, Sheffield, and was sent from there to a convalescent home, but the condition steadily grew worse. Since a few months after the onset of the illness she has never been able to go out alone for fear of falling. She

could get about in the house but had some difficulty in doing this. Four years ago a sister died rather suddenly and this seemed to give her a great shock and she has been almost entirely bedridden since that time. During the last few years she has become deaf and tremors have started in her head and limbs. Now she frequently complains of pain in the back of her head and neck.

At the present time the patient appears well nourished in the face and body and has a healthy colour. There are constant oscillating movements in the head which become worse when she is spoken to or when she attempts to speak. There are tremors in the hands, arms, and legs which become exaggerated on purposive action. The conjunctivæ and other visible mucous membranes are of good colour. The face is marked with numerous old acne scars and there is a similar eruption of recent origin present. The pupils are medium and equal, and react to light and accommodation. There is well-marked lateral nystagmus brought on by movement of the eyes to either side and ceasing when they are fixed. There is no nystagmus in the vertical direction. The optic discs are healthy. The hands and arms are thin and wasted, the muscles being very flabby. There is no paralysis. Incoördination is marked. She cannot perform any purposive movement on account of violent tremors. The legs are thin and wasted; the feet are in the position of talipes equinus with the big toe flexed on the first phalanx. She cannot stand alone or attempt to walk. There is no paralysis. When lying in bed she can raise the limbs and flex and extend them at will. Tremors are present and accompany all these movements but they are not so violent as those in the arms. There is no lateral curvature of the spine. The back muscles appear to be unaffected, the patient raising herself and sitting up with ease. Sensation to touch is present but it is slightly delayed. Sensation to pain and to temperature is active. Superficial and deep reflexes are lost. Her appetite is good. The bowels are constipated; the urine is normal. There is no loss of sphincter control. Menstruation was regular until a year ago since when she has had no period. The heart is healthy; the pulse rate is 72; and the lungs are healthy. Her mental condition is good. She understands and answers questions well. Her speech is slow and hesitating and the head tremors, which become violent on attempting to utter words, seem to impart a jerky character to them.

The younger patient, Jane, first showed signs of the disease when she was about 19 years old. Her sister had been ill for some time previously. Her illness began, like her sister's, with a fall. She was carrying two chairs across a landing when she fell backwards downstairs for a distance of 14 steps. She was picked up in an unconscious condition and was put to bed where she remained for some weeks. When she got up she noticed that she could not walk straight. She would turn giddy and fall down in the street. For some years she was troubled with vomiting as well. The emesis had no connexion with food and generally occurred in the morning. She has not been able to go about for six years and has been bedridden for the last three. Five years ago she had an abdominal operation performed on her in the Royal Infirmary, Sheffield, but she does not know what it was done for. Previously to her fall she was quite healthy.

The patient's present condition is as follows. She lies on her back in bed and appears comfortable. She is well nourished and has a healthy colour. She does not suffer from tremors like her sister. There is slight unsteadiness on purposive movement but this is due to the ataxia. There are a few scattered patches of acne on her face. The conjunctivæ and other visible mucous membranes are of good colour. The pupils are medium, equal, and react to light and accommodation. Internal and external lateral nystagmus is present in both eyes. Nystagmus is also present, with the eyes turned in the upward direction but not in the downward. The optic discs are healthy. There are no definite wasting of the arms and no paralysis, but the muscles are rather flabby. There is some incoördination, but it is not marked. She can feed herself, which her sister cannot do. There is slight wasting of the legs, the muscles being weak and flabby. The feet are in the same position of talipes equinus as her sister's. There is no paralysis but there is marked ataxia. She cannot walk or stand alone. There is no lateral curvature of the spine. The back muscles are very weak and she is unable to sit up in bed. Sensation to touch is present but is delayed, while sensation to pain and to temperature is normal. The superficial and deep reflexes are lost. Her appetite is good. The bowels are constipated but the urine is healthy. There is no loss of sphincter control. The menstrual function is regular. There is a slight tendency towards menorrhagia. The heart is healthy, the pulse-rate is 70, and the lungs are healthy. The mental condition is good. The patient understands and answers questions well. Her speech is slow and deliberate and inclined to be of a "scanning" type.

Remarks by DR. DUNCAN.—Friedreich's ataxia is of sufficient rarity to make notes of cases of it of some interest. The late onset of the disease in these two cases is a noticeable feature.

I have to thank Dr. Arthur Hall for his kind permission to publish these notes.

Medical Societies.

ROYAL MEDICAL AND CHIRURGICAL SOCIETY.

Adjourned Discussion on the Operative Treatment of Non-Malignant Ulcer of the Stomach and its Chief Complications with Indications, Limitations, and Ultimate Results.

A MEETING of this society was held on Nov. 27th, Mr. J. WARRINGTON HAWARD, the President, being in the chair.

Dr. NORMAN MOORE, in opening the adjourned discussion, said that the sole question which was under discussion was, What was the best method of treatment of non-malignant ulcer of the stomach? and it was a misfortune that, so far, the subject had only been considered from the operative point of view. The form of treatment must depend on the species of ulcer. There was a striking difference between the two periods of life above and below the age of 30 years. During ten years 323 cases under 30 years of age were admitted to St. Bartholomew's Hospital with gastric ulcer. Six of these patients died. Of these 306 were women. During the same period 188 cases over the age of 30 years were admitted with gastric ulcer and of these 23 died. Of these 117 were women. The proportion of women to men was much larger in both classes. He classified the cases of gastric ulcer into the following groups: first, the gastric ulcer which occurred in pale young women; secondly, the ulcer which followed on corrosive poisoning; thirdly, tuberculous ulceration of the stomach; and fourthly, ulcer associated with marked vascular degeneration. He considered that adhesions to the gastric wall were comparatively rare and far less common than adhesions of the spleen as shown by post-mortem examination. Out of 2038 necropsies in 17 instances only were adhesions present. One of these was due to a calcareous mass, probably an obsolete tuberculous infection, a second was in association with extensive thrombosis of the vena cava, and in the remaining 15 cases adhesions were present in the neighbourhood of an ulcer of the stomach or duodenum. When blood was found in the stomach at necropsy the common source of the blood was hæmorrhage from the lungs. The next most common source was cirrhosis of the liver; the third was gastric ulcer. The other causes were so infrequent that they need not be considered. With regard to treatment, he considered that operation in the ulcer occurring in pale young women was seldom called for except when perforation occurred. These patients should be treated by rectal feeding for ten days or more and careful attention should be paid to the circulatory system as well as to the digestive system. In cases of corrosive poisoning with long-continued symptoms gastro-enterostomy was indicated.

Mr. HERBERT J. PATERSON said he was glad that Mr. Mayo Robson now adopted the view which he (Mr. Paterson) had suggested in his Hunterian lectures—that peptic jejunal ulcer was a preventable complication due to insufficient size of the gastro-jejunostomy opening. He gave an analysis of cases of gastric ulcer which he had collected, which showed that the proportion of real cures was probably not more than 25 per cent. Acute ulcer, apart from its complications, rarely called for surgical interference. As regards chronic ulcer, the indications for operation which he had given in his lectures were as follows: "If after six weeks' complete rest on a milk diet, followed by a further period of six weeks on a milk diet with comparative rest, followed by three months' careful dieting, the patient was not free from definite symptoms, or if after apparent cure the patient had a relapse, operation was probably in the best interest of the

patient." As to the question of excising the ulcer to prevent the future development of cancer, he thought that further proof was required before patients were submitted to the added risk of excision. He pointed out that the mortality from gastric hæmorrhage was probably not greater than 5 per cent., while the mortality from operation *during* hæmorrhage was between 66 and 70 per cent. Even as regards the successful operations, they were entitled to ask, in the words of Sir James Paget, what would have happened if the operation had not been done? Consideration of the facts at present available led him to doubt whether it was ever expedient to operate during the course of gastric hæmorrhage. He pointed out the fact that a second attack of hæmorrhage from an acute ulcer was often reactionary or recurrent due to displacement of the clot from too early stimulation or injudicious moving of the patient. In such cases nature should have one more chance before operation was advised. In chronic ulcer a recurrence of hæmorrhage was due not to mechanical displacement but to septic disintegration, therefore probably the hæmorrhage would be repeated. If, then, the second hæmorrhage was a severe one an operation was advisable to prevent the serious and possibly fatal result of further loss. In hæmorrhages, which, although slight, were frequently repeated, operation was advisable before the patient became very anæmic. As regards perforation he doubted whether early operation influenced the mortality to as great an extent as was supposed. While early operation was highly desirable probably other factors, such as the extent and nature of the extravasation, the presence of other ulcers, and the rapidity and completeness of the operation, were important. He believed that better results would be obtained when gastro-jejunostomy was recognised as part of the routine treatment of perforation. Briefly his reasons were as follows. Gastro-jejunostomy lessened the risk in cases in which a second perforation was undiscovered, diminished the risk of perforation of a second ulcer, diminished the risk of hæmatemesis after operation, promoted more rapid healing of the line of suture and so lessened the risk of leakage, and permitted earlier feeding, earlier administration and more rapid action of purgatives, and so secured more efficient drainage of the peritoneal cavity. He considered that the worse the patient the more important was the performance of gastro-jejunostomy. Usually death was due not to shock but to pulmonary complications and peritonitis, hence the importance of early establishment of thorough intestinal drainage. As regards the after-results of gastro-jejunostomy he found from an investigation of the after-history of 143 patients that relief had been complete in about 83 per cent. The operation had been so successful that it was in danger of becoming too fashionable. He hoped that one of the results of the discussion would be to stem the gastro-jejunostomic tide, by defining more clearly the uses and limitations of the operation. It was not a panacea for all gastric ills and its performance in vague disorders of the stomach, unaccompanied by definite clinical and chemical signs, could not but bring discredit on a valuable and in suitable cases legitimate and brilliantly successful operation.

Dr. H. P. HAWKINS stated that the total mortality of 556 cases of gastric ulcer admitted consecutively into St. Thomas's Hospital was 13·3 per cent., this figure comprising a death-rate of 0·9 per cent. from hæmorrhage and exhaustion, of 8·5 from general peritonitis, of 1·9 from local peritonitis, and of 1·9 from sequelæ such as adhesions and pyloric stenosis. In estimating the efficiency of their present plan of treatment the long duration of the illness (in some cases 10 or 12 years) must be considered as well as the actual death-rate. Of these 556 cases more than 400 were admitted at an early stage and after a routine course of medical treatment were discharged as cured. It might be reckoned that about 25 per cent. of these apparent cures pass on later into the class of relapsing and chronic ulcer. It was in this class that most of the deaths occurred. He thought that the question was not so much how best to deal surgically with this chronic class as how to diminish their numbers by preventive treatment. He did not believe that there was any prospect of improvement in medical treatment as regards its general plan, but that the time usually allowed for the consolidation of repair of an ulcer was quite insufficient and that an important preventive step would be its extension to a minimum of six months. Apart from this an efficient gastro-enterostomy should be recommended as a routine measure in all cases which did not make a good recovery under medical treatment, or having made a good recovery showed signs of relapsing on return to an ordinary life. The risk of operating was below the risk of inactivity; in more than half of the cases of gastro-enterostomy at St. Thomas's Hospital the result might be described as satisfactory from one to four years after the operation. In view of the small mortality from hæmorrhage and the difficulty in finding a bleeding point he was not in favour of gastrotomy, but preferred to depend on medical treatment with subsequent gastro-enterostomy in a quiescent interval. The mortality from perforation with general peritonitis had been much reduced by earlier operation, being at the rate of 43 per cent. in the last five years. The treatment of adhesions and pyloric stenosis he thought should be entirely in surgical hands, but he called attention to the extreme difficulty in the diagnosis of adhesions, a matter leading into the field of the various nervous affections of the stomach, which were amenable only to medical treatment, and he mentioned the occasional exploration which was made unwarily in cases of tabes.

Dr. S. H. HABERSHON said that the question of the indications for surgical interference in cases of simple gastric ulcer was one of the utmost importance for the physician. In acute cases, except in the case of perforation, it was very rare for any question of operation to arise. It was in the *chronic cases* that urgent symptoms occurred which could not be relieved by ordinary medical treatment and in which the advice and skill of the surgeon were called for. The symptoms which were severe enough to call for one of the various surgical procedures might be classed under five heads. 1. *Excessive vomiting and pain*, due to the inclusion of a branch of the pneumogastric nerve in the cicatrix of a gastric ulcer. Several cases had been recorded by his father in his work on "Diseases of the Abdomen" (1888), in which this was the cause either of uncontrollable vomiting or of intense suffering and pain. One word must be said as to a difficulty of diagnosis that sometimes occurred. The condition might be simulated in hysterical young women when the incessant vomiting was a neurosis and the pain was described in such exaggerated terms as to be entirely misleading to the practitioner. In such cases the general appearance and nutrition of the patient or the careful arrangement of the hair in preparation for the visit of the medical man might lead to the suspicion that the vomiting was really under the patient's control and the pain fictitious. With regard to pain Dr. Habershon was accustomed to make use of a physical means of diagnosis which was not generally known and very rarely adopted. If in such cases pressure was applied to the epigastrium with one hand great tenderness was complained of, and the patient might even cry out on account of the intense hyperæsthesia. Now, if with the fingers of the other hand firm pressure was applied to the carotid artery on either side of the neck (but in his opinion better on the left side), so as almost to obliterate the circulation it would be found that the hyperæsthesia disappeared instantly on epigastric pressure in all neurotic cases. He had satisfied himself that it was not necessary to press upon the pneumogastric nerve but that carotid pressure was sufficient. 2. *Recurrent hæmorrhage*, especially when a large vessel was the source of bleeding. This rarely occurred except in chronic cases, when the fibrous nature of the scar prevented closure of the ulcerated vessel. 3. *Gastric dilatation and symptoms* occurring from the interference with the muscular movements of the stomach by adhesions of the peritoneal surface of the scar to surrounding organs. In this category might also be included those disastrous deformities of the stomach due to contraction of the cicatrix (the so-called hour-glass stomach) which ought never now to occur. 4. The *remote sequelæ* of the *perforation* of a chronic gastric ulcer with the formation of a localised or subdiaphragmatic abscess. The need for operation when the condition had once been diagnosed was too obvious to call for much discussion. 5. *Pyloric spasm*. He had described a group of symptoms that were associated with a simple chronic ulcer in the neighbourhood of the pyloric orifice. They were so definite and characteristic that in a classification of symptoms based on the position of the ulcer he should unhesitatingly divide them into two types: (*a*) The symptoms due to a pyloric ulcer or to an ulcer on one side or other of the pylorus, but in its immediate neighbourhood. (*b*) The symptom dependent on the occurrence of a gastric ulcer elsewhere. The former type owed its peculiarity to

the fact that pyloric spasm was set up. In the early stages of an ulcer in this position (or, in other words, when the ulceration was recent) the well-known combination of pain immediately after the ingestion of food with vomiting causing relief to pain was occasionally a part of the history of the patient's malady, and with or without hæmatemesis. When the ulcer had become chronic the patient was liable to recurring attacks of irritability without fresh ulceration necessarily taking place. The outcome was that every few weeks or months attacks of distressing symptoms recurred. Each attack might confine the patient to bed for some weeks and might subside under appropriate treatment. In others the patient was seldom free from discomfort, though there were usually exacerbations. Emaciation from malnutrition was often extreme and the life might be rendered burdensome by the constant suffering. Sooner or later the operation of gastro-enterostomy became a necessity. The results of a posterior gastro-enterostomy in such cases were so striking that he had no hesitation in saying that they afforded a most brilliant picture of the results of modern surgical methods. Dr. Habershon then referred to the cause of a return of vomiting and pain and to the remedy. When an ulcer occurred in the vicinity of the pylorus (either on its gastric or duodenal side) a spasm of the sphincter was set up at the time when food was intermittently expelled through the orifice into the intestine. When a short circuit was established and the food escaped by the new opening made the pylorus was at rest and the movements of the pyloric end of the stomach were probably less vigorous than normal. If by the character of the operation a loop of intestine was left between the pylorus and the new opening it was obvious that stagnation of the contents was possible, and with a relaxed pylorus regurgitation into the stomach was a probable explanation of the recurrence of pain and vomiting. In three cases seen last year and in which he considered a pyloric ulcer was present and recommended operation there was a recurrence of symptoms though a posterior gastro-jejunostomy was performed. Mr. L. A. Bidwell suggested a remedy which in two cases relieved the patients and in the third only produced partial relief. Another short-circuiting operation was performed by which the duodenum was connected with the nearest loop of intestine. In these cases the recurrent vomiting was of a bilious nature but there was no evidence to prove that a regurgitation of bile or pancreatic juice into the stomach acted in any way as an irritant. The operation performed eliminated any question of stasis in the duodenum and merely transferred the intestinal process of digestion to a portion of intestine a little further removed from the pylorus. For a recurrence of symptoms he would always recommend this second operation of entero-duodenostomy. In the last few years he had advised operation in some 43 cases of pyloric ulceration and in every case a posterior gastro-enterostomy was performed. Four cases proved to be malignant and in each of these death occurred either immediately (in two cases from the shock of operation) or in a few weeks after operation. The remaining cases recovered with the exception of four cases of relapse, three of which he had referred to.

Mr. C. W. MANSELL MOULLIN said the results of the present method of treatment, so far as cases sufficiently severe to be admitted into hospital were concerned, were very far from satisfactory. Four years ago, at his suggestion, Dr. C. V. Bulstrode collected and analysed the statistics of all the cases of gastric ulcer admitted into the London Hospital from January, 1897, to August, 1902—a period before operations for gastric ulcer, except for perforation, were at all common. They were just 500 in number—402 women and 98 men. Of these 48 (nearly 10 per cent.) died from perforation and peritonitis, 13 (2½ per cent.) from hæmatemesis, and 28 (5½ per cent.) from other causes. The total number of deaths was 89, or approximately 18 per cent. This was, of course, only the direct mortality and did not include the deaths due to the more remote sequelæ. As all the cases of simple gastrostaxis were included in the number and this disease has, so they were assured, a very low rate of mortality, it follows that the direct mortality of cases of true gastric ulcer, treated as it was at present, must be a great deal higher than even 18 per cent. The proportion of cases cured was equally unsatisfactory, for by cure he meant real cure, not merely discharge from hospital with the most pressing symptoms relieved for a time. But the estimation of this was almost impossible. Dr. Bulstrode, however, did the next best thing for him. He found by careful inquiry that of the 500 cases no less than 214 had suffered in the same way previously and had been relieved by treatment, some of them many times. In other words, 42 per cent. had relapsed. These figures did not include cases admitted for what might be termed the late complications of gastric ulcer. They did not take into account cases of pyloric stenosis, hour-glass contraction, perigastric adhesions, subphrenic abscess, or any of those other disorders which resulted from persistent ulceration. Nor did they take into account the effects of prolonged starvation and anæmia, nor cases in which carcinoma had developed at the site of an old ulcer. There was a growing tendency to believe that whatever might be the proportion of cases of gastric ulcer that ended in carcinoma, carcinoma of the stomach nearly always developed at the site of an old ulcer. The results therefore of applying the same method of treatment to all cases indiscriminately, so far as hospital cases were concerned, were briefly a mortality of at least 18 per cent. (perhaps much higher), 42 per cent. of relapses, a large number of grave complications setting in later and serious risk that carcinoma might follow. What was required was a more accurate diagnosis so that cases could be selected and classified. All recent and acute cases should have one thorough and prolonged course of medical treatment unless there was either perforation, actual or threatened, or hæmorrhage endangering life. The former of these exceptions was admitted by all; the latter was not. He maintained that if a patient was obviously dying from hæmorrhage and had reached that stage when it was practically certain that a little further loss would prove fatal it was his duty to try to arrest that hæmorrhage at all cost. There might be merely general oozing and no ulceration or definite bleeding point, but in every case in which he had opened the stomach the bleeding had been easily arrested, and he had seen two cases and knew of a third in which the hæmorrhage was allowed to continue until it proved fatal. It was no argument that in several cases in which an operation had been performed there had been subsequent attacks of bleeding. The operation stopped the hæmorrhage at the time, which was all it was asked to do. It did not cure the condition which gave rise to the hæmorrhage and did not pretend to do so. All recurrent cases—that was to say, cases in which the patient was perfectly well, with no suspicion of indigestion in the intervals between the attacks—should be treated in the same way. All cases of chronic ulcer of the stomach in which there had been one thorough trial of ordinary measures without relief, or with only temporary relief, should have an exploratory operation performed. If the ulcer had not healed in one thorough prolonged trial it was not likely to heal in a second. If it had healed and left a scar which more or less disabled the stomach by its contraction, nothing but operation could do any good. The ideal operation was excision, but this was rarely practicable. Posterior gastro-enterostomy, with a lateral anastomosis lower down in the loop, was a highly successful operation, both so far as immediate and permanent results were concerned. The mortality was barely 1 per cent. and would be lower still if cases in which it was done as a last resource, after everything else had been tried and failed, were left upon one side, as they should be. What was known as a "vicious circle" never occurred now, and though he could not say the same of peptic ulcer he had been so fortunate as never to meet with one. But the remedy was a purely mechanical one and its success was proportionate to the mechanical nature of the patient's trouble. Where the vomiting, &c., was dependent upon other than mechanical causes it was of little or no use, and though it gave some relief it would not cure atonic dilatation, such, for instance, as was often associated with enteroptosis.

The discussion was again adjourned.

MEDICAL SOCIETY OF LONDON.

Surgical Forms of Ileo-cæcal Tuberculosis.

A SPECIAL meeting of this society was held on Dec. 3rd, Mr. C. A. BALLANCE, the President, being in the chair.

M. HENRI HARTMANN, professor in the Faculty of Medicine of Paris, gave an address on the Surgical Forms of Ileo-cæcal Tuberculosis. It was, he said, only about 15 years ago that the surgical forms of ileo-cæcal tuberculosis became known; up to that date they were mixed with the

other kinds of intestinal tuberculosis, occurring chiefly in the form of ulceration of the ileum, which only physicians had been called upon to treat. Czerny of Heidelberg and Durante in Italy had excised tuberculous cæca; but it was not until 1891 that Billroth in Vienna and Hartmann and Pilliet in Paris had simultaneously insisted on the fact that there existed tuberculous lesions in the cæcum, which had hitherto been confused with cancerous disease. Now it seemed probable that the cæcum was more often the seat of tuberculosis than any other part of the alimentary canal. In M. Hartmann's opinion there were two surgical forms of ileo-cæcal tuberculosis: the entero-peritoneal or ulcero-caseous form and the hyperplastic form which resembled intestinal stricture. In the entero-peritoneal form the end of the ileum and the cæcum were sloughed away by the ulcers; the appendix was often destroyed; the whole of the ileo-cæcal region might be lost in a mass of adhesions, interspersed with caseous matter, and there might be purulent tuberculous cavities, communicating sometimes with the intestinal tract, sometimes opening to the skin (pyostercoral fistula). The hyperplastic form was the most important from a surgical standpoint; it was generally limited to the cæcum and rarely involved the ileum; when it spread it did so in the direction of the colon, seeming to be a descending tuberculosis. Exceptionally the hyperplastic tuberculosis of the cæcum was associated with hyperplastic tuberculosis of the colon, as M. Hartmann had observed at the necropsy of one patient. The cæcum was often included in a fibro-adipose mass which attained a thickness of from three to four centimetres. The regional lymphatic glands were involved and might be even more voluminous than in cancerous degeneration. After opening the gut the coats were found to be the seat of much rigid thickening, its cavity had disappeared to a great extent, and there was only a slight depression in the place of the cæcum. The stricture might be no thicker than a goose quill. The mucous membrane was often ulcerated, with villous vegetations, granulations, and projecting polypi. The appendix, lost in the surrounding infiltration, was often almost intact, or perhaps it participated in the hyperplastic process and then it communicated with the cæcum by an enlarged orifice. Microscopically the characteristic feature was the considerable round-cell infiltration associated with the tuberculous lesions. These tuberculous lesions might be developed at the surface of the mucous membrane or in the subserous coat. When the mucous membrane was especially affected the ulceration was more or less deep and in exceptional cases reached as far as the serous membrane which might be perforated; but, as a rule, it stopped at the muscular coat. Between the glands and in the tissue between the ulceration there was a great quantity of round cells, with here and there some giant cells, and in some parts caseous deposits. The round-cell infiltration continued in the submucosa and spread through the muscular coat, following the lymphatic vessels and extending into the subserous tissue. In a few cases the mucous membrane was not ulcerated. With these tuberculous lesions other lesions might be associated—e.g., simple inflammatory or sclero-adipose thickening, or the production of polypi which might have the ordinary structure of intestinal adenoma. Possibly some intestinal strictures, called inflammatory, ought to be included among the tuberculous lesions, as two patients on whom he had operated upon for such lesions succumbed to tuberculous lesions, one after ten and the other after seven years. Ileo cæcal tuberculosis was equally observed in both sexes; thus one observer had recorded cases in 36 males and 41 females, another 48 males and 35 females, and M. Hartmann had observed 105 males and 112 females. The disease seemed to present its maximum frequency between 20 and 40 years of age. The patient might be affected with pulmonary tuberculosis but generally to a slight degree, or even not at all. There was a great difference from this point of view from tuberculous enteritis which appeared, on the contrary, in the late stages of pulmonary tuberculosis. The surgical forms of ileo cæcal tuberculosis manifested themselves clinically by two kinds of symptoms—signs of peritoneal reaction and signs of intestinal stricture. In the entero-peritoneal form the patient sometimes presented signs of tuberculous enteritis; a painful attack in the right iliac fossa was sometimes the first symptom, or there might be a tumefaction simulating appendicitis. In these cases the swelling became diffuse, extending to the median line towards the pelvis. A slow suppuration developed and opened on the skin or into the intestines. The constitutional symptoms increased by the constant suppuration and as the result of a pulmonary tuberculosis, usual in these patients. The hyperplastic form had an insidious onset with loss of appetite, slow digestion, and disagreeable sensations in the right iliac fossa. For months this state remained stationary. There might be alternating constipation and diarrhœa, and sometimes attacks of colic two or three hours after meals. In other cases the attention was simply attracted by intermittent pains in the right side of the abdomen. The tumour was sharply outlined at its lower end, slightly mobile, and tender. Instead of occupying the normal position of the cæcum the tumour might be higher up, at the upper part of the iliac fossa, or even higher, above the iliac crest. The evolution of the hyperplastic tuberculosis was a slow one, inasmuch as the lungs were often intact for a long period. But the disease never retroceded and the spontaneous evolution was fatal. In the absence of complications the patients only die after a long time by the progress of cachexia, by a secondary pulmonary tuberculosis, or by a diffuse tuberculosis of the intestines and of the peritoneum. The entero-peritoneal form might be mistaken for appendicitis. The absence of resolution of the indurated mass, the subacute attacks of inflammation, the concomitant diarrhœa, and the frequent co-existence of pulmonary tuberculosis aided in the diagnosis. Actinomycosis could be suspected when the abdominal walls were rigid and board-like, and when sinuses appeared the characteristic granules were usually seen. The hyperplastic form might be mistaken for neoplasm; in the latter, however, the obstruction increased more rapidly and the tumour was more nodular. The presence of pulmonary disease would favour the diagnosis of cæcal tuberculosis, but this was rare in the early periods of hyperplastic tuberculosis. In some cases operation alone could decide the diagnosis. In regard to prognosis, M. Hartmann had summarised from the literature of the subject 229 operations with 46 deaths. In reality, the results were now much better than these statistics, taken *en bloc*, would lead them to suppose. If the cases operated on were divided into two groups there were prior to 1900 73 cases, with 22 deaths (30 per cent.), and after 1900 58 cases, with seven deaths (12 per cent.). As the disease when left to itself was always fatal operation was indicated in all cases. For the hyperplastic form resection of the intestine was advised; in the entero-peritoneal form, or when with a hyperplastic tuberculosis there was an extensive mass of adhesions, resection of the intestine was dangerous and the indirect treatment—i.e., the excision of diseased parts—was indicated. Numerous illustrations of the various cases quoted were exhibited.

The PRESIDENT, in congratulating M. Hartmann on his valuable and exhaustive communication, mentioned the case of a man, aged 25 years, who suffered from subacute attacks of peritonitis and in whom a thickening could be felt in the right iliac fossa. Laparotomy was performed and tubercle of the peritoneum with ulceration of the intestinal mucous membrane was revealed. 15 months later the patient died from pulmonary tuberculosis.

Mr. A. W. MAYO ROBSON moved a vote of thanks to M. Hartmann. The varieties of tumour referred to by M. Hartmann were undoubtedly mistaken for cancer, as in a case which he (Mr. Robson) had recently seen. Possibly general or peritoneal tuberculosis arose in this way. Operation was the only rational means of treatment and he discussed the different operative procedures available.

Sir LAUDER BRUNTON, in seconding the vote of thanks, remarked that probably he, like other physicians, had sometimes overlooked the real origin of such cases of tumour of the cæcum. Early operation was indicated rather than palliative measures. Medically the means of treatment were mainly preventive—namely, by guarding the milk-supply.

ROYAL ACADEMY OF MEDICINE IN IRELAND.

SECTION OF OBSTETRICS.

Exhibition of Specimens.—President's Address.—Repeated Abortions and Ventro-suspension.

A MEETING of this section was held on Nov. 16th, Dr. R. D. PUREFOY, the President, being in the chair.

Mr E. H. TWEEDY showed specimens of Tubal Pregnancy and Perithelioma of the Uterus.—Dr. ROBERT J. ROWLETTE

said that perithelioma had not been described until within the last few years. It was extremely likely that the tumour had been seen previously but had been unrecognised.

The PRESIDENT read his introductory address, in which he referred to the work of the preceding session, noticing the various communications read by the members, including papers read by Dr. Delaharpe of Bonn; Mr. J. S. Sheill of the Coombe Hospital, Dublin; Dr. A. N. Holmes of the Rotunda Hospital, Dublin; Mr. J. S. Ashe of the Adelaide Hospital, Dublin; and Sir Arthur V. Macan. In referring to the reports of the Rotunda Hospital he said that in one of them there was recorded a case of spontaneous inversion of the uterus occurring in the hospital while the patient was under observation. The theories recently adduced as to the causes of eclampsia were mentioned and the value of the old treatment by bleeding, followed by saline transfusion, was emphasised. The views recently put forward by Halban as to the secretion furnished by the ovaries and placenta and its influence on the genital organs of both mother and child were noticed; also the supposed influence of corpus luteum tissue in causing the development of hydatidiform moles, malignant or otherwise. Reference was made to three causes of accidental hæmorrhage, recently reported, all of which ended fatally, and in all of which the necropsy showed that incomplete external rupture of the uterus had taken place. Dr. Savage's recent paper on ovarian hæmatomata received very favourable notice and attention was directed to the renewed interest in, and good results obtained by, serum injections in puerperal sepsis.

Mr. SHEILL read a paper on Repeated Abortions and Ventro-suspension. He described the case of a woman who was aged about 30 years, had been married four years, and had had four abortions, all at about the tenth week, the first one being twins. There was a family history of twins, the patient having twin sisters. On May 3rd, 1905, he curetted her for an incomplete abortion, when she came under his care for the first time, and at that time he made the diagnosis of acute retroflexion with a fibroid tumour and recommended operation, as she was very desirous of having a living child. She agreed and on the 23rd of the following June he removed a pedunculated fibroid of about the size of a hen's egg which was attached to the fundus; he also performed a ventral suspension. The patient menstruated normally on July 19th and August 21st. Her husband was at that time away from home. On his return he cohabited with her on Sept. 1st, 1905, for the first time since the operation, with the result that Mr. Sheill delivered the patient of a child, which showed every evidence of being full term, on June 16th, 1906, so that the conception must have taken place on or about Sept. 16th, 1905—i.e., 16 days after the husband's return. But on Oct. 21st, 1905, exactly two calendar months after the last menstruation, the patient had a uterine hæmorrhage, and with it there came away an ovum of about six weeks' development. The hæmorrhage was not very profuse and soon ceased. There was no pain, so active interference was withheld. She was taking potassium chlorate at this time. No further menstruation occurred and, on examination early in January, 1906, Mr. Sheill diagnosed a "uterus large enough for four and a half or five months pregnancy, which might be a mole or a twin of the ovum aborted last October." With regard to the success of the operation itself it was interesting to note that the ventro suspension caused no pain, unusual vomiting, or frequency of micturition during gestation; and that there was no dragging on, or alteration in shape of, the uterus other than a slight dimple at the fundus. The labour was uneventful and the ventral scar showed no signs of weakness. A vaginal examination a month later showed the uterus to be involuted normally and in perfect position. An enlargement of the thyroid gland had been described in infants born of mothers who had been taking potassium chlorate during pregnancy with a view to prevent abortion. There was no such enlargement in the infant's thyroid in this case.—Sir WILLIAM J. SMYLY said that he approved of suspension, but many cases of retroversion, especially those which occurred after delivery, got well if treated with a pessary. He had no doubt that the living child was the result of Mr Sheill's treatment.—Professor A. J. SMITH said he thought that Mr Sheill had acted wisely in removing the tumour and preserving the uterus. Of course opinions might differ as to whether it was absolutely necessary to have suspended the uterus.—Dr. HENRY JELLETT said that he had found no difficulty in performing Alexander's operation and in no case had the immediate results been otherwise than excellent. He was therefore in favour of the Alexander operation in simple uncomplicated cases of retroversion of the uterus. There were, however, a number of cases in which it was entirely inapplicable, among which Mr. Sheill's case was, he thought, included.—Sir ARTHUR MACAN, Mr. TWEEDY, the PRESIDENT, and others also made remarks on the case.

HUNTERIAN SOCIETY.—A meeting of this society was held on Nov. 28th, Mr. John Poland, the President, being in the chair.—The President showed a Bursa removed, together with an Exostosis, from the olecranon of a man. It had appeared suddenly without any obvious cause. There was no history of injury and no reason to suspect the presence of gout or tuberculosis. A skiagram was also shown.—Dr. W. Langdon Brown showed five specimens illustrating Lesions of the Suprarenal Capsules. 1. An adenoma of the suprarenal body invading the kidney, removed from a man aged 46 years, who had complained of hæmaturia, epistaxis, and fainting during the act of micturition, and had a high tension pulse and other signs and symptoms suggestive of granular kidney. The patient was in good health a year after the operation. Dr. Langdon Brown suggested that these signs and symptoms were really due to excess of adrenalin in the blood. 2. Hæmorrhage into both suprarenal capsules, from a patient who died after a few hours' illness. The blood was found, before death, to contain intracellular meningococci. There were petechiæ in the skin and in the walls of the intestine, and hæmorrhage into the frontal convolutions. There was no meningitis. 3. Extreme degree of atrophy. A female patient died after a year's illness in which she had suffered from vomiting, weakness, and pigmentation of the skin. No trace of the right suprarenal body could be found, while the left could be demonstrated only by microscopical examination. 4. Suprarenal hæmorrhage in an infant, both organs being engorged with blood. Dr. Langdon Brown gave a short account of these cases, which were characterised by the occurrence of diarrhœa and vomiting, pyrexia, and sometimes purpuric eruptions. He considered that they were due to a severe toxæmia. 5. Tuberculous disease of the left suprarenal body, which had softened down and ulcerated into the stomach just before death. The patient, a woman, aged 26 years, had noticed pigmentation of the skin for 18 months.—Mr. Richard Warren showed a specimen of Gumma of the Left Kidney. The patient, a woman, aged nearly 40 years, had had three healthy children and no miscarriages, and could give no history of syphilis. For 15 weeks she had had occasional attacks of hæmaturia. A tumour was felt in the left loin diagnosed as an enlarged kidney, and Mr. E. Hurry Fenwick performed nephrectomy. The patient made a good recovery. The gumma was of about the size of a lawn-tennis ball. Mr. Warren discussed the differential diagnosis, excluding tuberculosis and anæmic infarct.—Mr. Ernst Michels showed a Papillary Carcinoma of the Left Kidney removed from a woman, aged 40 years, who had a tumour in the left loin, and complained of hæmaturia of four years' duration. Cystoscopy revealed the presence of a small tumour in the bladder obstructing the orifice of the left ureter. After removal of the tumour in the bladder the swelling in the loin diminished in size, but as the hæmaturia persisted Mr Michels removed the kidney. He looked on the bladder tumour as being due to implantation. Recurrence in the pelvic glands took place some months later.—Dr. J. F. Zum Busch showed specimens of Bilateral Carcinoma of the Fallopian Tubes, apparently primary, removed from a patient, aged 47 years, with ascites and numerous secondary deposits in the abdomen. There was no evidence of malignant disease of the uterus or ovaries.—Dr. H. R. Andrews commented on the absence of sanious discharge in this case.—Dr. Andrews showed a Uterine Fibroid of about the size of a cocoa-nut removed after Cæsarean section at full time. The fibroid filled the pelvic cavity, displacing the cervix so that it could not be felt. Mother and child both did very well.—Mr. W. H. Best showed a Microscopical Preparation from the Sputum of a man, aged 29 years, who had a severe attack of hæmoptysis. There was consolidation of the apex of the right lung but no pyrexia. The patient made a good recovery.—Mr. Warren showed a Melanotic Sarcoma removed from the margin of the anus.

DERMATOLOGICAL SOCIETY OF GREAT BRITAIN AND IRELAND.—A meeting of this society was held on Nov. 28th, Dr. Leslie Roberts, the President, being in the chair.—Mr. G. W. Dawson showed: 1. A woman with Swellings around the Roots of the Nails of Both Hands and

Feet. The patient had suffered with chilblains and also from osteo-arthritis. The condition had improved considerably under anti-rheumatic treatment. 2. A case of Paget's Disease of the Breast in a woman, aged 78 years, of five years' duration.—Dr. A. Eddowes showed: 1. A case of Favus in a girl, aged nine years, which had been cured by means of the x rays. 2. A man, aged 27 years, with Pemphigus Vulgaris of nine months' duration. The lesions, which were large and situated upon the dorsal surfaces of the phalanges and chest, were preceded by a tingling sensation.—Mr. Spencer Hurlbutt exhibited a man with Balanitis Perstans. The condition had persisted on and off for some years and there was neither glycosuria nor albuminuria. A water-colour drawing of a second case was also shown which was more amenable to treatment.—Dr. E. G. Graham Little showed: 1. A girl, aged 15 years, with a Psoriasiform Patch upon the Outer Aspect of the Left Leg. There were no other signs of psoriasis. It was suggested by some present that the condition had an ichthyotic basis. 2. Two cases of Acquired Syphilis. One was in a girl, aged 14 years, the medico-legal aspects of whose case excited considerable discussion. The other case occurred in a female child, aged five years, and was probably the result of accidental inoculation.—Mr. G. W. Sequeira showed a case for Diagnosis. The patient was a woman, aged 28 years, in whom eight weeks ago patches of ulceration had made their appearance over the left malar region and had gradually spread down the face and neck. She had had amputation of the left fore arm performed five years ago for "ulceration" commencing in the left hand. Beyond the fact that the condition was one of follicular ulceration, probably bacterial in origin, none of the members ventured upon a diagnosis.—Dr. E. Stainer exhibited a woman with two Button-like Infiltrated Lesions upon the Chin of two months' duration, each with a central depression. There was some evidence of slight scarring in the immediate vicinity, but there was no history of syphilis.—The probable specific nature of the case was suggested by the majority of the members.

Reviews and Notices of Books.

Diseases of the Nervous System resulting from Accident and Injury. By PEARCE BAILEY, A.M., M.D., Clinical Lecturer in Neurology, Columbia University, New York City. London: Sidney Appleton. 1906.

SOME years ago Dr. Bailey wrote a book with the title "Accident and Injury in their Relations to the Nervous System." In it he gave a systematic description of the nervous affections which result from injury and fright generally regarded as the traumatic neuroses. As is well recognised, these disorders exist independently of any demonstrated lesions in the nervous system and yet the differential diagnosis from organic disease is often a matter of great difficulty. The scope of the work has now been extended so that all traumatic affections of the nervous system have been included, both organic and functional. To unite with the old book the mass of new matter made necessary by this change was found to be impossible and the present volume practically forms a new work with a more comprehensive title.

Dr. Bailey points out that no sharp line of demarcation can be drawn between the disorders of the nervous system which develop as a result of injuries and which are acutely produced and those which owe their existence to causes operating more slowly. Yet as every causal factor adds its special mark to the conditions which it induces, so injury and shock stamp their impressions upon the nervous affections resulting from them. As the author describes in detail the results of such traumata on the nervous system, he found it necessary carefully to define the word "traumatic," and after full consideration he adopts this term as indicating "quickly acting physical violence or psychic shock which arises outside the body." This definition covers a large ground and the cases which come under its scope present some of the most difficult and interesting problems with which medical practitioners have to deal.

The first four chapters treat of preliminary matters, such as the previous history of the patient, the history of the accident, and the examination of the actual injury. Dr. Bailey then proceeds to discuss in an interesting manner the complications and sequence of injuries to the brain and the spinal cord. The thoroughness with which he enters into his subject is shown by the fact that nearly 200 pages have been found necessary in which to express his views. The part of the volume dealing with the functional effects of injury is also carefully written and the symptoms which manifest themselves are fully described and analysed. The book concludes with two chapters on medico-legal considerations.

We are very favourably impressed by a perusal of the work and we believe that it will prove a useful book of reference for medical men when dealing with patients who ascribe their condition to some previous shock or injury.

Minor Maladies and their Treatment. By LEONARD WILLIAMS, M.D Glasg., Physician to the French Hospital, Assistant Physician to the Metropolitan Hospital. London: Baillière, Tindall, and Cox. 1906. Pp. 383. Price 5s. net.

THIS book deals chiefly with some of the so-called trivial diseases which come under the notice of the general practitioner. Dr. Williams gives briefly the differential symptoms and describes the treatment of colds, coughs, sore throats, indigestion, constipation, diarrhœa, vomiting, giddiness, "rheumatism," neuralgia, headache, and goutiness. The book contains also chapters on change of air, general health, the uses of certain drugs, and insanity. In his preface the author explains that his object in writing the book is "to supply, in an accessible form, detailed information on subjects with which the ordinary text-book necessarily deals in a cursory manner. The newly qualified medical man, while admirably equipped in the diagnosis and treatment of what may be called the classical diseases, is nevertheless but very partially informed on many subjects concerning which he will be expected to speak and act with authority as soon as he enters into practice." With the exception of the late Dr. Lionel Beale's book on "Slight Ailments," we know of no other work dealing with subjects so important to the young medical practitioner. There can be no doubt that the discontinuance of the apprenticeship system deprives the modern medical student of many advantages in learning not only how to conduct the business of a practice but also how to treat the minor ailments which make up so large a proportion of the practitioner's daily work. The young medical man does not desire a treatise on the pathology of, and a lengthy consideration as to the value of this or that line of treatment for, the minor maladies. He desires a concisely written handbook full of practical hints and definite methods of treatment which have been proved to be useful. We believe that Dr. Williams's manual fulfils these requirements. In concise, clear language which remains in the memory the author enunciates the recent theories of gout, rheumatism and other maladies in so far as they afford a *rationale* for the treatment which has proved successful in his hands. If at times the author's opinions tend to be somewhat dogmatic this feature is, in the special circumstances, only an advantage. All physicians, for example, may not agree with his classification of the varieties of dyspepsia but few will dispute its practical usefulness when regarded from the point of view of treatment. Dr. Williams's opinions on some of the subjects discussed are novel and somewhat at variance with those generally accepted and therefore they are provocative of thought on the part of his readers. He condemns woollen garments worn next the skin and says that "it is quite impossible so to treat flannel as to render it absorbent."

We should hesitate to accept this last statement without adequate experimental proof. Many kinds of flannel are undoubtedly deficient in power of absorption but well-made woven woollen under garments will absorb moisture quite as readily as cotton or silk fabrics.

The chapter on change of air is one of the most useful in the book. Nothing is taught about this subject in the medical curriculum and most young practitioners are obliged either to learn from their patients what climate best suits them or to puzzle over large works on climatology and health resorts without having first any elementary knowledge regarding the action of a "bracing" or a "relaxing" climate on the human metabolism. In the little book before us we find explained in one short chapter the principles underlying "change of air" as a method of treatment; and in addition a descriptive summary is given of the various spas at home and abroad. This chapter will be of service to the young practitioner who has not had the advantages of travelling before settling down to make his livelihood.

Without straying too far into the tempting avenues of hypothesis Dr. Williams has written a short practical book full of information. He has kept strictly in view that the object of the book was to aid the young practitioner in his daily work. Numerous formulæ of prescriptions are given and there is a chapter dealing with certain drugs which contains useful suggestions. Every young practitioner should have this work among his books of reference.

The Aristocracy of Health. By MARY FOOTE HENDERSON. London and New York: Harper and Bros. 1906. Pp. 272. Price 6*s*.

"THE human race is ill." So says Mary Foote Henderson, and she sets out on a long, long journey, some 272 pages long in fact, to cure the human race—no, not to cure it—for that, we gather, she cannot do—but to reform it, so that future generations may be born, themselves physically ideal, of parents physically ideal. *O! matre pulchrâ filia pulchrior!* Yes, but, alas, this is not always the rule. Nature is notoriously capricious, and we cannot believe that even the author and her fellow physical culturists can change human nature which Horace has told us will come back even though turned out with a pitch-fork. Such a book as this we cannot think will find many readers, at least in England, though the author has recognised the value of a high-sounding title. We must confess to not liking the book for several reasons, which may be summed up by saying that it is too long and too enthusiastic. If we believe all we are told in this book we are indeed in a sorry plight. King Poison (for such is the fantastic personality evolved from the imaginative mind of the author) has conquered the East and is fast overwhelming the West. The Latin races have succumbed, the Anglo-Saxons are fast succumbing. The poisons (*sic*) against which the author aims her arrows are tobacco, alcohol, opium, tea, and coffee, and we read with some amazement that "tonics" are poisons in disguise. These poisons are dealt with from every point of view—physiological, pathological, bacteriological, psychological, sociological—and we can only regret that such an amount of hard work as must have been lavished on the preparation of this book should have been inspired by such an intemperate spirit. Why must social reformers always indulge in such furious diatribes? The medical profession at large has long recognised the necessity of more general habits of temperance and hygiene, and countless societies and funds are working, not only in civilised countries but all over the world, with this as their goal. We agree with the author in her denunciation of juvenile smoking. No condemnation is, of course, strong enough for the habit, which, we are told, exists, of tobacconists paying street urchins for the stumps of cigarettes picked up in the street or elsewhere that they may reconvert them into cigarettes for sale, but surely this habit of tobacconists is very rare. What is the author's proof of its existence? The latter part of the book is given up to a warm advocacy of a vegetarian, or, as the author would suggest, "sanditarian" diet. In this part of the book, of course, Dr. Haig is largely quoted and Mr. Eustace Miles, but that arch epicurean, Horace, would surely turn in his grave could he but hear his name mentioned as one addicted to a vegetarian dietary! The name of Horace reminds us, and we would remind the author, that authorities agree that 753 B.C. is the traditional date of the foundation of Rome and not 650, while in the Book of Genesis we can read, "And Noah woke from his wine." The book is full of quotations and testifies to the far-reaching studies of the author, but we must enter a protest against her method of inserting her own bracketed additions into the quoted passages. It is not civil and not generous to those from whom she has borrowed.

Studies in Clinical Psychiatry. By LEWIS C. BRUCE, M.D. Edin., F.R.C.P. Edin. London: Macmillan and Co., Limited. 1906. Pp. 246. Price 10*s*. 6*d*. net.

THE author of the above work in a short preface criticises the older methods of investigating mental disease and he urges that psychology should be divorced from psychiatry and that the latter should be studied along the lines which are adopted in general medicine. Dr. Bruce follows the course of recent writers in emphasising the importance of studying the physical aspect of mental disease, and we are fully in accord with this mode of procedure, for by this means only will rapid advance be made.

The first chapter of the book is devoted to a review of the present knowledge of the physical symptoms of mental diseases, and one of the most interesting sections is that on the hæmopoietic system, for it alludes to the author's own research on leucocytosis. This subject is more fully discussed in the chapter on the Clinical Pathology of Mental Diseases. Dr. Bruce practically ignores pathology so far as the changes in the brain cells and nerve fibres are concerned, because he considers that until we know what the causes of these changes are we are little the wiser for such knowledge. He prefers to supplement clinical study of mental disorders by clinical pathology and laboratory observation. This chapter on clinical pathology demonstrates the large amount of careful work which has been carried out by Dr. Bruce and his assistants, especially in the matter of leucocytosis. The author finds hyperleucocytosis in varying degrees in the following insanities: acute mania, excited melancholia, katatonia, folie circulaire, some stages and complications of general paralysis, and the mental symptoms associated with epilepsy. There are at the end of the book 20 "leucocyte charts" which will repay careful study.

Another chapter is reserved for the consideration of the Mental Functions; nevertheless, some of the subjects which are included in it can scarcely be regarded as coming under this heading. The paragraph on hallucinations contains a statement which we cannot pass unchallenged: "It is possible that repeated hallucinations may cause mental disease." Hallucinations may precede in point of time other symptoms of mental disorder but surely their very presence is indicative of an abnormal state. They may accentuate a mental disorder and may lead to the development of false beliefs, but even here they cannot be considered as the origin of the malady. The author objects to stupor being described as a disease or being divided into clinical varieties, because he considers that it is "merely a symptom or stage of various diseases," but he might equally apply this argument to certain forms of mania and melancholia which he treats as if they were definite diseases.

Stupor, like mania, is a group of symptoms which indicates a mental state but both are dependent upon some toxic or other factor. In the section on sleep Dr. Bruce records some valuable research on the arterial tension of patients observed during sleep artificially produced by various drugs.

The chapter on the Causation of Insanity is very interesting, although we cannot agree entirely with the statements that the author makes. Great emphasis is laid on the importance of the careful study of the toxic origin of mental disease and with this we cordially agree. He divides the exciting causes of insanity broadly under the headings of "non-toxic" and "toxic." This division also forms the basis of his classification of mental disorder: (1) insanities of non-toxic origin and (2) insanities of toxic origin, the latter forming by far the larger group. We cannot agree with him when he places exhaustive insanity (as the sequelæ of exhausting diseases such as typhoid fever influenza, and pulmonary tuberculosis) in the non-toxic division, but as he does not offer his classification as final or complete but rather as a working basis he somewhat disarms criticism.

The succeeding chapters are devoted to the description of the various types of insanity. The author does not recognise acute delirious mania as a separate disorder but considers it to be rather a termination of a severe toxic insanity. "Dementia præcox" in a term which does not find favour with Dr. Bruce as he considers it to be "unsatisfactory and unscientific," but he is willing to admit certain disorders which are frequently described as types of dementia præcox—viz., katatonia and hebephrenia. In the alcohol group no mention is made of Korsakoff's disease and in general the drug disorders are described somewhat briefly. He considers general paralysis to be a nervous disorder of the toxic type and concludes his remarks on this malady by saying that "whatever may be the source of the toxin in the early stages of the disease there is no doubt that in the terminal stages the toxæmia is that of a mixed infection probably gaining access to the body through ulcerated patches in the intestinal tract." General Treatment forms the subject of the concluding chapter. It is not a very full account but what is stated is of importance from the clinical standpoint and the remarks on thyroid treatment are decidedly good.

"Studies in Clinical Psychiatry" is probably a book which is more suited to the student than to the general practitioner, but it is a valuable addition to the work on the subject and may be safely recommended as a trustworthy text-book on mental diseases.

LIBRARY TABLE.

The Use of X Rays in General Practice. By R. HIGHAM COOPER, L.S.A., Medical Officer in charge of the Radiographic Department at University College Hospital. London: Baillière, Tindall, and Cox. 1906. Pp. 98. Price 2*s.* 6*d.* net.—The intention of the author of this little book is to give to the general practitioner some idea of the help that he may get in his practice from the use of the x rays. It is indicated to him on the one hand what cases are suitable for him to examine and to treat himself if he possesses suitable apparatus, and on the other the cases which he should send to an expert. It is the author's aim to convince the medical man that the use of these rays is on a definite scientific footing, both with regard to diagnosis and to treatment. The information in this manual is necessarily condensed, the actual physics being reduced to a minimum. The book is well illustrated and is written in a very readable way. The first part of the book deals with the rays in diagnosis and the second refers to x rays in treatment. A chapter is devoted to diseases of the skin and its appendages. The author writes that "there are few skin diseases in which x rays will not produce beneficial results, but it is inadvisable to employ the rays in simple cases which can be cured by ordinary remedial measures." We look on this work as a useful one and likely to help to keep patients who require x ray treatment out of the hands of unqualified persons.

Davos as Health Resort. A handbook containing contributions by many writers, both medical and lay. With an Introduction by W. R. HUGGARD, M.D. R.U.I., F.R.C.P. Lond., H.B.M. Consul at Davos. Davos Printing Company. 1906. Pp. 316.—In his introduction Dr. Huggard says that it is his pleasant duty to introduce to his brethren at home foreign colleagues and men of letters who in their own countries would not need any introduction and some of whom are already well known in England. This volume for the profession in England is an adaptation of the German edition. Dr. Huggard has known Davos for 20 years and has watched its development in many directions and on broad lines. He writes that "the absence of liability to tuberculosis in Davos and the presence of the danger elsewhere may excite surprise until the circumstances are known." In Davos the most stringent precautions are taken to prevent the spread of tuberculosis. The sporting side of Davos is an advantage for a large proportion of the invalids. It counteracts the hypochondriacal atmosphere likely to prevail where there are no other interests than those of bodily condition, and is a wholesome corrective. The contributors to this volume come from many different lands in Europe and have now made Davos their more or less permanent home. The book is well illustrated with coloured plates and reproductions of photographs and is divided into 13 chapters which deal with the History; with the English Colony; with Topography and Geology; with the Davos Peasantry; with the Climate and the Flora; with the Physiology of the Davos Climate; with Indications and Contra-indications for the High Mountains; with the Treatment of Phthisis in the High Mountains; with Summer in the High Mountains; with the Fear of Infection at Davos; with Practical Hints for Doctors sending Patients to Davos; and with Sports and Phthisis. The book is one which may be read with advantage by medical men who are sending patients to the high mountains for treatment.

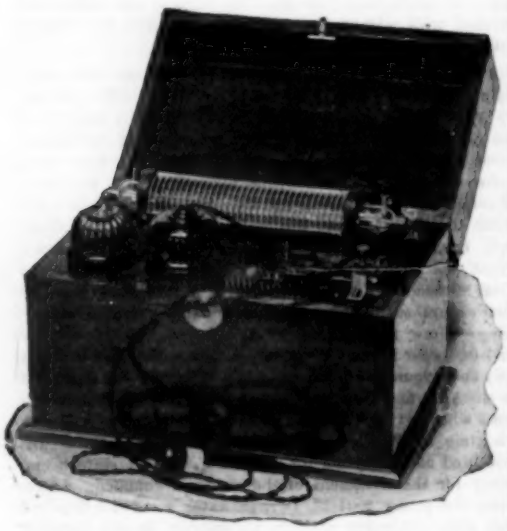
A History of Haslar Hospital. By WILLIAM TAIT, M.B. Edin., Fleet-Surgeon, R.N. Portsmouth: Griffin and Co. Pp. 170.—It has been the custom to give a short account of the construction of Haslar Hospital to the newly entered naval medical officers who join the Haslar School for a course of instruction in subjects appertaining to the navy. In compiling the materials for such a description the facts about the history of the hospital contained in this volume have been gradually accumulated. In lifting the curtain which has so long hid the actors in this particular scene Fleet-Surgeon Tait hopes that he is able "to show them in their natural surroundings, without malice or exaggeration." Long before naval hospitals were founded a scheme was devised by Sir Francis Drake and Sir John Hawkins whereby they endeavoured to procure funds not only for the treatment of the sick and wounded but more especially to maintain those who had been maimed in their country's fights, and in the time of William and Mary Greenwich Hospital was first used as an asylum for aged and disabled seamen and partly for the treatment of the sick and wounded. Later, when the young Earl of Derwentwater met with his sad end, after the rising of 1715, his estates, to the value of £20,000 a year, were given to the Greenwich funds. Thirty years later, through the earnest solicitations of John, fourth Earl of Sandwich, a vote was obtained for a hospital and land was purchased at Portsmouth. The hospital, which has now so long been known as Haslar, was built after the model of Greenwich Palace, which was designed for Charles II. by Inigo Jones, but without ornamentation. At pp. 52–53 the

author tells us that the official residences now known as the "Terrace" were erected in 1796–98 on what had been the burial ground of the hospital and that even as late as 1904 skeletons were found imbedded within a few feet of the Inspector-General's front door. The chapter on the messes for the medical officers and nursing sisters shows that they are well housed and provided for, and that on the medical officers of the hospital is amusing reading. Reference is made to the operating rooms of the hospital and we notice the growth which has taken place in the number of the operations performed during the last few years. The volume is an interesting one and is of historical value. We do not see that many suggestions are made for improvements but that some must be necessary even yet we feel pretty sure, for the concluding words of the book inform us that the "red tape" of the hospital still extends to "110 dozen pieces" per annum.

New Inventions.

THE "EOS" DIRECT CURRENT PORTABLE OZONISER.

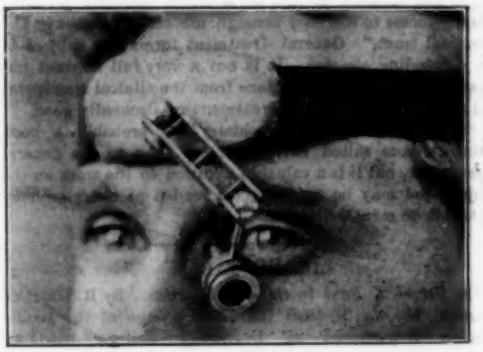
THE success with which this apparatus works is due to a specially designed induction-coil which works directly from the continuous main current. The difficulty has hitherto been that either an alternator and a transformer had to be used or large and expensive resistances. Accumulators give perhaps the best results but these have to be first charged, whereas the "Eos" coil works directly from the main continuous current of whatever voltage. Behind the ozonising tube seen in the accompanying illustration are three sockets for inserting resistances in the form of ordinary electric lamps. If it is desired to work on a 200-volt circuit then 200-volt lamps must be inserted or if on a 100-volt circuit 100-volt lamps must be used. The current of 200 volts pressure requires 32 candle-power lamps inserted and the 100 volts pressure circuit 16 candle-power lamps.



When the coil is required for ozonising air, for which purpose it was originally designed, although obviously it may be used for a number of other purposes, the circulation of ozone is assisted by the warmth of the resistance lamps. The lamps, however, do not get warm enough to destroy the ozone. The apparatus when it is adjusted—and there is no difficulty about that matter—works perfectly continuously and without requiring any particular attention. There is a steady output of ozonised air, the yield being controlled by varying the candle-power of the resistance lamps. The effect on the air is pleasant, the diffusion of ozone through the air rapidly asserting itself by its peculiar "fresh" smell. We understand that the apparatus is being used for freshening the air of stuffy rooms, railway carriages, smoking-rooms, and so forth. For any of these purposes the apparatus could not be more convenient. The connexion with the main is effected simply by inserting a plug into the socket which ordinarily receives the incandescent lamp. The ozonising tube may be jacketed, in which case a stream of ozonised air can be used for local application, as in the treatment of the throat or suppurating surfaces or wounds. The entire apparatus occupies but little space and is easily portable, weighing not more than a few pounds. It should prove a useful adjunct to the hospital ward or sick room. The wholesale agents to the medical profession for these ozonisers, which are manufactured by the Electric Ozone Syndicate, are Messrs. Allen and Hanburys, Limited, Bethnal Green, London, E. The price of the apparatus with ozonising tube is 6½ guineas, or the coil can be had separately, when the price is 4 guineas.

A RADIUM APPPLICATOR.

THE accompanying illustration is reproduced from a photograph of a new instrument for the application of radium. Many operators find it convenient to use radium in small sealed glass tubes and this instrument is devised to hold securely the tube or tubes in any required position. The essential feature is a double ball and socket movement. Fixed to the patient, usually, but not necessarily, to his forehead (by a longer band it can be applied anywhere) by means of an elastic or webbing band, is a plate similar to that of the ordinary head mirror used in throat work; inserted into this plate is a pin with a ball at the end of it. Another ball has tapped into it a pin carrying a collar in which the radium tube fits securely by means of an india-rubber diaphragm. (This ring can be made of any size to take one or more tubes.) A very free movement is obtained,



Showing apparatus as applied.

the two balls working in cups in the side plates. The radium tube can be fixed in any position by tightening the side "milled nuts," there being two, one controlling each ball. Besides insuring the safety of the tube and its valuable contents (which has hitherto depended on the steadiness of the patient and the tenacity of the strapping used to fasten the tube) the patient with this instrument is able to sit up, read, and move about without altering the relative positions of the tube and the area under treatment. These are points which are not unimportant, as many of the patients are old, feeble, and restless, and the treatment with radium may mean an application for an hour at a time. A removable pad is supplied and the rest of the apparatus being nickelled can be sterilised with the greatest ease. The instrument is made by Mr. T. Leach, 7, Exeter-terrace, Barking-road, East Ham.

J. ELRICK ADLER, M.R.C.S. Eng., L.R.C.P. Lond.
Finsen Light Department, London Hospital, E.

THE GENERAL COUNCIL OF MEDICAL EDUCATION AND REGISTRATION.

WEDNESDAY, NOV. 28TH.

THE General Medical Council met again to-day, Dr. D. MACALISTER, the President, being in the chair.

Penal Cases.

The Council proceeded with the consideration of the case of James William Ayres, registered as of 111, Farnworth-street, Liverpool, Lic. R. Coll. Phys. Edin. 1874, who had been summoned to appear before the Council to answer the following charges as formulated by the Council's solicitor:—

That you were on the 5th day of October, 1905, convicted at the city police court, Liverpool, of being drunk in a certain public street in Liverpool, and guilty while drunk of riotous behaviour therein, and also that you were on the 7th day of December, 1905, convicted at the same court of wilfully neglecting your four children, who were all under the age of 16 years, in a manner likely to cause them unnecessary suffering.

Mr. AYRES appeared in answer to the charge and denied drunkenness and cruelty to his children.

The Council having deliberated *in camerâ* the President announced that the following resolution had been come to:—

That James William Ayres having been proved to have been convicted of misdemeanour the Registrar be directed to erase his name from the Medical Register.

Another case was that of Edmund McDonnell, registered as of 25, Hereford-street, Sheffield, Lic. R. Coll. Phys. Edin., 1880, Lic. R. Coll. Surg. Edin., 1880, who had been summoned to appear before the Council to answer the following charges as formulated by the Council's solicitor:—

(1) That you have acted as cover to an unqualified person—namely, Mr. William Williams Alnwick—and knowingly enabled him to attend and treat patients and otherwise to engage in medical practice as if the said William Williams Alnwick were a duly qualified and registered medical practitioner.

(2) That you knowingly allowed the said William Williams Alnwick to fill up and sign in your name a certain certificate of death—namely, that of Ellen Millward—which stated that you had attended the said Ellen Millward in her last illness and that you had last seen her alive on the 20th of September, 1906, whereas in fact you had not attended her or seen her, but the said William Williams Alnwick had alone attended and seen her.

And that in relation thereto you have been guilty of infamous conduct in a professional respect.

And further I give you notice that information and evidence have been laid before the Council that you were on the 24th day of July, 1906, convicted at the Sheffield City Petty Sessions on three charges of drunkenness, and that you were on the 13th day of September, 1906, convicted at Belfast of drunkenness.

The accused practitioner made no appearance and the Council having considered its judgment *in camerâ*

The PRESIDENT announced that Edmund McDonnell had been adjudged guilty of infamous conduct in a professional respect and the Registrar had been directed to erase his name from the Medical Register.

Qualifying Examination in Midwifery and Gynæcology.

Mr. YOUNG moved—

That it be remitted to the Examination Committee to consider the report as to the inclusion of clinical and practical work in the qualifying examination in midwifery and gynæcology.

Dr. MCVAIL seconded the motion.

It was agreed that the remit should be to the Practical Midwifery Committee and thus amended the motion was agreed to.

Systematic Courses of Lectures.

Sir THOMAS MYLES moved:—

That it be remitted to the Education Committee to consider and report how far it may be possible to dispense with the compulsory attendances of students on the systematic courses of lectures in the theatres of medical schools, in order that the time so saved might be devoted to a more extensive study of the purely scientific portion of the curriculum, or utilised in any such manner as may be found hereafter to be demanded by modern requirements.

He said that this motion represented the continuation of a policy originated by the General Medical Council in 1888 when it suggested that in order to afford due time for clinical work it was desirable that the number of systematic lectures should be limited. The Royal College of Surgeons in Ireland had discussed the matter at length and a resolution was unanimously carried that in future certificates of attendance on the theoretic lectures on medicine, surgery, and midwifery should be no longer demanded for their diplomas. That showed that he was speaking on behalf of an important institution. His College had been convinced that recent changes in medical matters and the immense expansion in collateral sciences made it necessary to give the students a deeper training in scientific subjects. In Ireland, however, they felt that they could not do anything that would add to the cost of the curriculum. They could not add on anything except in substitution of something removed, and it was thought that the least sacrifice of educational advantages would be by the cessation of the lectures delivered in the theatres of the various medical schools. The best use was not made of the time at the disposal of students, and theoretic lectures in medicine and surgery especially were overlapping the work undertaken at the hospital. To ask a student to attend 52 lectures in a theatre divorced from the practical illustration of his study was an anomaly and was supererogatory. The time that the student spent and the money which he paid might be more profitably spent on the enlargement of the scientific courses. He was aware that there was a prejudice against pure sciences having too great a share in medical education but to produce the very best type of medical men it was absolutely necessary that they should have a very solid scientific foundation on which to build the superstructure.

Dr. ADYE-CURRAN, in seconding the motion, said that he looked upon the attendance at the theatre lectures as so much lost time.

Sir CHRISTOPHER NIXON described the proposal as extraordinary. He did not suppose the Council had ever had a wilder suggestion before it. It was really proposed to abolish all systematic teaching in medicine, surgery, and midwifery. He observed that there was no suggestion by Sir Thomas Myles that they should reduce the hospital fees in Dublin. If a student was not required to attend the lectures he would not read the subject and would idle. In his opinion they must always have provision for the delivery of systematic lectures by competent men.

Sir JOHN W. MOORE said it might be news that the propositions of the Royal College of Surgeons in Ireland had been before the Royal College of Physicians of Ireland and they had been scouted by that institution. The Royal College of Physicians was unanimously in favour of continuing systematic lectures in medicine, surgery, and midwifery. With respect to the past action of the General Medical Council he pointed out that to economise in lectures was very different from abolishing them. This proposal was revolutionary. He would ask Sir Thomas Myles, for instance, how diseases of the liver could be taught unless they were enlarged upon in the theatre. That sort of teaching which was the result of experience in the hospitals was not the kind of thing that could be learned by mere book reading. He should be sorry to see hospital fees reduced because he did not believe Ireland was so poor a country as was commonly supposed.

Dr. NORMAN MOORE said that the motion was not a practical one. One point had been lost sight of. In all scientific subjects the more a specimen could be shown the better, and that principle had been fully carried out in medicine. Lecturing, especially on medicine, was a most difficult task and it could not be carried out without the lecturer taking enormous pains and first of all spending a large part of his life in acquiring and meditating upon his subject. He insisted on the value of personal contact with the lecturer and was sure that such an obvious method of teaching would never be abolished.

Dr. MACKAY did not share the opinion of Sir Thomas Myles, as the lecture was one of the most valuable ways of imparting knowledge. The personality of the teacher was the most important element in the whole process. As far as the motion was concerned there was no barrier in the way of the Royal College of Surgeons in Ireland carrying it out. Nothing in the regulations of the General Medical Council would prevent that. He understood that it was very difficult to draw the line between the systematic lecture and the clinical lecture. Perhaps the Royal College of Surgeons was seeking to save a little money by making the clinical lecturer do what the systematic lecturer had been doing in the past. He hoped the motion would not be pressed.

Sir CHARLES BALL said that it was not the bald method of stopping all those lectures which was before the Royal College of Surgeons, but rather the substitution of some other form of instruction. He thought it well to ventilate the subject so that it might be possible in the future that a more

extended course of practical pathology and a more extended course of systematic clinical instruction within the walls of the hospital might take the place of the old-fashioned course in surgery and medicine. There was a great deal more in the question than many members seemed to think.

Mr. BROWN considered that a good case had been made out for inquiry. The Council might make recommendations which would have the result of altering the character of courses of lectures and making them of a more practical and useful character.

Mr. THOMSON said he understood that the subject was outside the scope and influence of the Council and Sir Thomas Myles with the consent of his colleagues could do what he pleased and need not trouble the Council for its consent.

Sir THOMAS FRASER could not understand the systematic lectures being decried or their sacrifice being suggested. He declared that under the five years' curriculum it was quite possible to give a systematic study of six months on a practical course of bacteriology, a systematic course in physiology extending over a winter and a summer session, and a course of systematic and practical chemistry extending over nine months. The motion therefore appeared to be quite unnecessary.

Dr. BRUCE having supported the motion,

The PRESIDENT, in reply to Dr. LINDSAY STEVEN, stated that the Council had to decide whether a course of study required by a particular body was sufficient. That course of study was expressed by the regulations of that body. The Council, in order to help bodies to draw up regulations, had passed resolutions as to what those regulations should contain or need not contain. One of those was that the course need not contain provision for systematic lectures more than three days a week.

Dr. SAUNDBY hoped that the Council would not permit the motion to be withdrawn so that they might have an evidence that the Council was convinced of the necessity of maintaining systematic lectures. He thought that the time tables afforded ample time for the full instruction which Sir Thomas Myles wished to be given.

Sir THOMAS MYLES having replied on the discussion and declared that he was not attacking systematic courses because they were inefficient but was suggesting that those courses might be replaced by better ones,

The Council divided, when there voted—for the motion, 7; against, 17; 4 being absent and 5 declining to vote. The motion was accordingly rejected.

Examiners at the Apothecaries' Hall of Ireland.

Dr. ADYE-CURRAN moved—

That in consideration of the heavy expense entailed on the Apothecaries' Hall, Dublin, by the appointment of the surgical examiners from London and Edinburgh respectively the Council resolve that at the next vacancy surgical examiners be appointed from amongst the profession practising in Dublin.

He said he had been under the impression from what fell from the President at the last session that the present examiners were about to retire and on that understanding he withdrew the motion he made in May. He informed his board in that sense and they might judge of the surprise that was felt when the two examiners turned up again in July as fresh as paint, examined the candidates, and demanded their fees.

The PRESIDENT said he could not understand the surprise. Dr. Adye-Curran was aware that no new examiners were appointed in May and no new examiners could be appointed till November.

Dr. ADYE-CURRAN said the matter at all events required investigation. In 1897 the examiners were appointed for two years. In 1899 they were re-appointed for another period of two years. It would appear that during the last five years they had been examining without any mandate from the Council and without any authority. In any case they had examined long enough to make a change necessary. The Board was anxious for a change and he hoped the Council would act upon his suggestion that two Irish examiners should be appointed. He might add that there was no objection to the work of the two gentlemen concerned. They had always given great satisfaction and had been most courteous, but the expense of bringing them over to Ireland was very considerable, amounting to £110 or £120 a year.

The PRESIDENT said that as to the legality of the appointment of the examiners he was bound to state that those gentlemen were not holding office illegally at the present moment. They were appointed for two years tentatively and then they were appointed subject to further notice.

Sir THOMAS MYLES formally seconded the motion.

Sir CHRISTOPHER NIXON spoke in favour of filling the next vacancy by appointing a Dublin surgeon. He did not think they could go further than that, as at present there was no vacancy.

Dr. NORMAN MOORE thought that while there was some justice in the contention of Dr. Adye-Curran they could not bind a future Council. No doubt when the question of an appointment arose the representations of the Irish members of the Council would be remembered.

Mr. BROWN asked whether it would be in order, seeing that no resignation had taken place, to put on the agenda paper a motion to terminate at once the appointment of the examiners.

The PRESIDENT replied that that would be in order but whether the Council would accept the motion was another matter.

Sir JOHN W. MOORE hoped that the Council would not adopt the motion because it would be a serious step if they disfranchised all the members of the profession in England and Scotland for holding a post of honour such as that of examiner to a licensing body in Ireland.

Mr. MORRIS regarded the conditions of appointment as indefinite and unsatisfactory, and he suggested that Dr. Adye-Curran should withdraw his motion and bring forward another which would enable the Council to consider whether there should not be a definite term put upon the holding of the examinerships.

Dr. ADYE-CURRAN agreed to withdraw his motion on the understanding that he should bring forward another later in the session.

The motion was accordingly withdrawn.

The Council then adjourned to the following day.

THURSDAY, NOV. 29TH.

The General Medical Council resumed to-day, Dr. D. MACALISTER, the President, being in the chair.

Penal Cases.

The Council considered a report of the Dental Committee on the charge against Samuel Foley, William Henry Moseley, and James Parkinson, in regard to which the Dental Committee found the following facts:—

The complaint against Samuel Foley, William Henry Moseley, and James Parkinson having been referred to the Dental Committee to ascertain the facts, the Dental Committee beg to report as follows: On Nov. 6th, 1906, the following parties attended before the committee and were duly heard—namely, Mr. Samuel Foley, who was represented by Mr. Courthope-Munroe, instructed by Messrs. Baxter and Co., solicitors, and Mr. William Henry Moseley, who was represented by Mr. Priest, of Messrs. W. M. Tayler and Son, agents for Mr. J. H. Ryley, solicitor. Mr. James Parkinson did not appear in person, but was represented by Mr. Kerr, of Messrs. Kerr and Ramsden, solicitors. The complainants, the British Dental Association, were represented by Mr. R. W. Turner, instructed by Messrs. Bowman and Curtis-Hayward, solicitors to the association. The committee find that the following facts were established by the evidence:—

(*a*) The three dentists above-mentioned are all on the Dentists' Register as in practice before July 22, 1878, and their addresses on the Register are as follows: Samuel Foley, 266, Westminster Bridge-road, London, S.E.; William Henry Moseley, 6, St. Matthew's-street, Ipswich; James Parkinson, 116, Uxbridge-road, Shepherd's Bush, London, W.

(*b*) On or about May 29th, 1899, the three dentists above mentioned signed the memorandum and articles of association, and thereby became members of a limited company named Foley's, Limited, incorporated under the Companies Acts for the purpose (*inter alia*) of carrying on the "business of dentists and dental surgeons."

(*c*) The company immediately after its formation entered into an agreement with an unregistered person named Edward Foley, a brother of the said Samuel Foley, for the acquisition from the former of five dental practices at the following addresses—namely, 75, Westbourne-grove, W.; 21, High-street, Kensington, W.; 95, North End, Croydon; 32, Tavern-street, Ipswich; and 29, King's-road, Brighton. The said unregistered person named Edward Foley was and is the sole and managing director, and also the principal shareholder of the company.

(*d*) The company now carries on practice at all the above-mentioned addresses except the last, and employs the said Edward Foley to attend patients and perform dental operations, and takes and uses the title of "dentists" and "surgeon dentists."

(*e*) The company advertises systematically and extensively by circulars of an objectionable character and containing claims of superiority over other practitioners.

(*f*) Samuel Foley signed the memorandum of association of the company for five founders' shares and William Henry Moseley and James Parkinson for ten founders' shares each, but they have never paid anything in respect thereof or received any dividends thereon. The total issued capital of the company is 65 founders' shares and 2000 ordinary shares, all of £1 each, of which the said Edward Foley owns five founders' shares and all the ordinary shares.

(*g*) Samuel Foley, at and previously to the formation of the company

practised at the same address as his brother, the said Edward Foley—namely, at 82, King's-road, Brighton. He only resided there from Saturday till Monday in each week. He subsequently handed over the premises and the brass plate bearing the inscription, "Mr. Foley, Dentist," and the furniture and appliances to his brother, and ceased to practise there himself. The said Samuel Foley took no part in the management of the business carried on by the company and was carrying on a practice himself elsewhere, but he was well aware of the object with which the company was formed, and knew that it was to enable his brother as an unqualified person to advertise himself and carry on practice as a dentist and surgeon-dentist.

(b) The said William Henry Moseley, at and previously to the formation of the company, and for about three years subsequently thereto, was in the employ of the said Edward Foley, and he signed the memorandum of association at the request of the said Edward Foley. He was at this time and for some time subsequently under the impression that Edward Foley was in fact Samuel Foley, the registered dentist of that name. His salary was for some years two guineas a week, but was subsequently raised to £3 a week. He had a large family, and was entirely dependent for his living upon the said Edward Foley. He was assured by the solicitor who acted for the company, when he signed the memorandum of association, that he was incurring no liability by so doing. He received certain half-yearly reports from the company, but put them in the fire as soon as received. He has recently transferred his shares.

(c) The said James Parkinson, previously to the formation of the company, was intermittently in the employ of Samuel and of Edward Foley. He signed the memorandum of association at the request of the said Edward Foley and subsequently received a share certificate, but has had no further communication with the company. On receipt of the Registrar's request for an explanation he wrote to the company with instructions to remove his name from the register of members, and on receipt of legal advice as to the necessary steps has undertaken to execute a proper transfer of his shares.

The report also stated what the evidence before the committee consisted of. The Council agreed to hear the defendants or their counsel and agents if they desired to be heard.

Mr. COURTHOPE-MUNROE, speaking on behalf of Mr. Samuel Foley, declared that the finding that Mr. Foley practised at Brighton at, and previously to, the formation of the company was incorrect. He pointed out that his client had been drawn into the case in an attempt to help his brother by signing the document. The committee had found that he had taken no part in the management, and, indeed, when he was informed about the charge he took immediate steps to get his name off the company's register. He argued that according to findings of the court the Council must find that a person who was regarded as being a delinquent had done something wrong in the pursuit of his profession. The Council would have no power, for instance, to strike a person off the Register for being concerned in the promotion of a fraudulent gold-mining company. Mr. Foley desired to express regret and to say that he had done all he could to remedy his action. He thought, however, that upon the very clear finding on the facts this was a matter which was not within the jurisdiction of the Council under the Act of 1878.

Mr. PRIEST gave an undertaking on behalf of Mr. W. H. Moseley that there would not be a repetition of what had occurred.

Mr. TURNER, representing the British Dental Association, said the Council had to deal with specific facts in this case. A certain number of registered dentists, using their professional position as dentists, signed a memorandum of association to enable an unqualified and unregistered person to pose before the public as a dentist. They further permitted the company to indulge in a series of advertisements which were found to be of a disgraceful character. Such conduct came clearly within the scope of the definition given by Lord Lindley. If medical men used their position to form a company they must see that only professional men were employed and that the business was carried on in a professional manner.

The Council having deliberated *in camerâ*,

The PRESIDENT announced that it had been proved that Samuel Foley had been guilty of conduct infamous or disgraceful in a professional respect and the Registrar had been directed to erase his name from the Dentists' Register.

With regard to William Henry Moseley and James Parkinson, the further consideration of the charge against them had been postponed until the next session of the Council. They would be summoned to re-appear in May and to show to the satisfaction of the Council that they had done their best to sever all connexion with the company and that their professional conduct in every respect had been satisfactory in the interval.

The Council proceeded with the consideration of the report of the Dental Committee on the charge against William Williams Alnwick, in regard to which the Dental Committee found the following facts:—

The complaint against William Williams Alnwick having been referred to the Dental Committee to ascertain the facts, the Dental Committee beg to report as follows: On Nov. 28th, 1906, Mr. William Williams Alnwick attended before the committee and was duly heard. The case having been brought to the attention of the Council by the Registrar-General the facts were laid before the committee by the solicitor. The committee find that the following facts were established by the evidence:—

(a) The said William Williams Alnwick is on the Dentists' Register as in practice before July 22nd, 1878, and of the address, 39, Highfield-place, Sheffield.

(b) The said William Williams Alnwick, being a registered dentist, but not being a registered medical practitioner, has attended and prescribed for patients as though he was a duly qualified and registered medical practitioner and has in the name of one Edmund McDonnell, a duly registered medical practitioner, signed a death certificate in the case of Ellen Millward, whom the said William Williams Alnwick had so attended and prescribed for.

(c) The said William Williams Alnwick has been carrying on a general medical practice for over 30 years.

(d) The said Edmund McDonnell has resided for the last eight or nine years with the said William Williams Alnwick and has been his "assistant partner" in medical practice. The said William Williams Alnwick was authorised by the said Edmund McDonnell to sign his name to the certificate of death of the said Ellen Millward, although in fact the said William Williams Alnwick alone had attended her, and the said Edmund McDonnell had not attended her.

(e) The said William Williams Alnwick was convicted on Oct. 30th, 1906, at the Sheffield City Police Court of forging the certificate of the death of the said Ellen Millward for the purposes of the Births and Deaths Registration Act, 1874, and was fined £3 14s. and £1 6s. costs.

A description of the evidence before the committee was also given in the report.

Mr. ALNWICK, who appeared in person, said the only thing he could state in mitigation was that he was told by Mr. McDonnell to sign this certificate and at the same time he was under the impression that Mr. McDonnell had seen the case as he had told him so.

The Council having considered their decision *in camerâ*,

The PRESIDENT announced that the Council had come to the conclusion that William Williams Alnwick had been proved to have been convicted of a misdemeanour and the Registrar had been instructed to erase his name from the Dentists' Register.

Report of the Education Committee.

On the motion of Dr. MACKAY, seconded by Dr. NORMAN MOORE, the following report of the Education Committee was received and entered on the minutes:—

On May 28th, 1906, it was moved by Dr. Bruce, seconded by Sir T. McCall Anderson, and agreed to: "That it be remitted to the Education Committee to consider how far Recommendation V. of the General Medical Council—viz., 'that the fifth year should be devoted to clinical work at one or more public hospitals or dispensaries, British or foreign, recognised by any of the medical authorities mentioned in Schedule (A) of the Medical Act (1858), provided that of this year six months may be passed as a pupil to a registered practitioner possessing such opportunities of imparting practical knowledge as shall be satisfactory to the medical authorities'—is at present being given effect to, and if the committee sees fit to recommend to the Council such changes in the said resolution as would be likely more effectually to secure the object aimed at by the Council in 1890."

An examination of the regulations of all the licensing bodies shows that in no case is it made compulsory on the student to devote the final year exclusively to clinical work. In the great majority of instances, however, the arrangements are such that the prescribed systematic courses can be completed by the end of the fourth session, and the student is thus left free to devote his later work entirely to clinical study if he so desires. In most of the schools surgery, materia medica and therapeutics, and medical jurisprudence with public health, along with a portion of the work in anatomy, occupy the third year. The subjects of systematic study allotted to the fourth year are usually pathology, medicine, and midwifery; they demand only about half the working day throughout the winter session, and they need hardly, if at all, encroach upon the summer term. The precise arrangement of the courses and the periods of attendance prescribed vary very considerably; but it may be said that although there is of necessity some overlapping of the groups of studies as defined by the successive examinations, as a rule the third and fourth years taken together are ample for the completion of the systematic work demanded.

A large number of students take out second attendances on systematic courses of instruction bearing upon the subject of the final examination, particularly in medicine and surgery. That an extended study of the principles which underlie the two great branches of professional practice should be frequently sought for is neither to be wondered at nor deprecated. In the few instances among the licensing bodies in which some systematic study in the fifth year is exacted from or recommended to the students the dominating influence is invariably the same—namely, enforced "second attendances." In two schools (the Universities of Durham and Birmingham) a period of 12 months' systematic study is required both in medicine and surgery, in four others (the Universities of Manchester, Liverpool, Leeds, and Sheffield) a course of similar length is recommended in medicine. In all the six cases referred to systematic work in the fifth year in medicine and allied subjects is either directly prescribed or rendered practically inevitable.

The recommendations of the Council were not intended to discourage students from taking second attendances in medicine and surgery, even if the additional courses should fall within the final year. The Council's recommendations were meant to emphasise the importance and to promote the application of clinical study and to secure a due balance between practical and theoretical teaching. Of the students at every centre a very considerable number do not follow the typical course owing to failure in the earlier examinations or to prolonged preparation in some of the subjects. It may be inferred that in such

cases in the attempt to recover lost time the later years of study will be encroached upon by systematic work primarily intended for an earlier period. The following statistics of the Conjoint Examining Board in England have a direct bearing on the question. They give an analysis of the curriculum as followed by 400 students (of whom 271 were conjoint students and 129 university students) who qualified in the two years previous to 1906 under the regulations then in force.

(1) Percentage table showing the duration of the curriculum:—

5 years.	5¼ years.	5½ years.	5¾ years.	6 years.	6¼ years.
3·5	4·75	10·5	4·75	13	11·5

7 years.	over 7 years.
12·5	34·5

28·5 per cent. qualify in less than six years
71·5 per cent. take six years or more to qualify.
37 per cent. take from six to seven years to qualify.

(2) Percentage table showing the interval between the date of passing in anatomy and physiology and the completion of final examination:—

2 years.	2¼ years.	2½ years.	2¾ years.	3 years.	3¼ years.
2·25	3	9	5·75	18·25	26·25

4 years.	over 4 years.
15	21·5

20 per cent. complete the final examination in less than three years.
80 per cent. take three years or more to complete.

If the average for those who took more than seven years to qualify be set down approximately as amounting to seven and a half years, the figures show that under modern regulations as to study and examinations the average curriculum of the medical student extends to six and a half years, and that of this period three and a half years are exclusively devoted to the subjects of the final examination. It becomes evident that only the very best students, a proportion only of those who pass unchecked through the curriculum, complete the course in five years, and that it is not usual to find that early delays are compensated for by overcrowding in the latter part of the curriculum. The amount of work required for the final, as compared with that demanded for the earlier examinations, is well illustrated in the foregoing tables.

The resolutions of the Council in 1890 were reissued, slightly altered in substance, in 1893 in the shape of requirements and recommendations; they have had a marked effect upon medical education in the country. As far as the recommendations are concerned it may be said that they are adopted practically in their entirety by all the licensing authorities and that the principles which they embody are being steadily extended in their practical application. The Education Committee believe that to change the recommendations into requirements would be foreign to the whole policy of the Council and likely to retard rather than advance the object aimed at in 1890. The requirements of the Council should be strictly limited to essentials, and no attempt should be made to enforce absolute uniformity of method among all the licensing bodies. In certain points the recommendations of the Council should be amended. The provision contained in Clause V. that six months of the final year may be employed in pupilage to a registered practitioner has been but little taken advantage of, only two of the authorities embodying it in their regulations. Inquiries addressed to the bodies in question have elicited the fact that few or none of the students make use of the permission. Many of the authorities include in their regulations a provision to the effect that students shall be trained in the administration of anæsthetics. The committee believe that the Council would be justified in recommending to all the bodies a similar course. The regulations of some of the licensing bodies are indefinite as to attendance at post-mortem examinations. The subject is alluded to in Section IV. of the recommendations, but the committee are of opinion that a definite recommendation should be made. In view of the great importance of the statistics relating to the average length of the curriculum quoted in their report the committee are of opinion that full information on the subject derived from all the sources should be placed before the Council. They are willing to undertake the investigation should the Council desire it. The committee beg to recommend as follows:—

(1) That the "recommendations" of the Council in regard to professional education should stand as at present, with the following alterations—viz., (a) that the reference to a period of pupilage should be erased from Section V.; (b) that special reference should be made (1) to instruction in "administration of anæsthetics," (2) to attendance at "post-mortem examinations."

(2) That statistics relating to the length of the curriculum under the present regulations should be procured and laid before the Council.

Dr. MACKAY, in moving the first recommendation, said the mandate of the committee had been a very restricted one. The committee had not felt justified in going into the question of the whole curriculum or in dealing with anything which was embraced in the requirements of the Council. There were matters there which seemed to be of the deepest import in connexion with medical education and the committee had at the present moment certain recommendations lying before it which were being held over in the meantime but which would soon come up for consideration. There was also a motion on the paper by Sir John Batty Tuke which bore directly upon the whole question of the curriculum. He therefore asked that the discussion on the report of the committee should be limited to the matters placed before them. In Dr. Bruce's motion the objects of the Council in 1890 were alluded to. The committee was of opinion that the object of the Council in putting forward those resolutions was to promote practical and clinical teaching so far as possible. The rules and regulations of the various bodies had been carefully studied and the committee had come to the conclusion that all licensing bodies had loyally tried to carry out the wishes of the Council and that the recommendations had been adopted and were being carried out in the great majority of cases—he might say in all cases—so far as the time allotted to the curriculum allowed them to be carried out. Considering the success which the recommendations of the Council had had, their general adoption, and the fact that the action of the Council in 1890 had had the most profound effect on medical education in the country, the committee was of opinion that it would not be wise to make a radical change in their methods. The committee thought, however, that the recommendations were susceptible of some improvement and had suggested that the period of pupilage should be erased from Section V. Inquiries were addressed to all the bodies whose regulations permitted of pupilage and as a result the committee found that practically no students took advantage of the permission. He gathered, therefore, that it was not likely that there would be any objection to the suggestion of the committee. The second recommendation was to the effect that instruction as to the administration of anæsthetics and attendance at post-mortem examinations should be specially referred to in the Council's recommendations. With regard to the second of these subjects, it was almost universally called for in the regulations of the bodies. He thought they would find that no objection would be taken anywhere to the proposal. The other matter might call for more consideration, but at present a very large number of the bodies insisted on instruction in the administration of anæsthetics and perhaps a still greater number had actually given instruction. The committee felt that the subject was so important that the recommendation of the Council would materially benefit schools in this respect. The committee asked permission to gather statistics as to the length of the curriculum in different schools. They had printed statistics which were of the greatest interest and importance, from which they found that in the case of some 400 university and Conjoint students the average course occupied rather more than six and a half years. They were also enabled to see how much of the time was spent on each of the examinations. From the figures before them it appeared that three and a half years were given exclusively in the average case to the work of the final professional examination. It would be of interest and of very great value, in view of the fact that the Education Committee must sooner or later take up the whole question of the curriculum, if they were to obtain statistics from all the bodies in the different parts of the country. He therefore would ask the Council to pass a resolution in the sense of the committee's recommendation. The recommendations he would move separately and he now moved the first.

Dr. NORMAN MOORE seconded the motion.

Mr. BROWN agreed as to the advisability of erasing the reference to pupilage. He did not understand how it could be thought that a student on the eve of his final examination and after his hospital course would go to a country surgeon for six months. If the period of pupilage had been permitted in the first year or before the student entered upon the hospital practice it would have been of very great use to the student as an initial experience preparing him for hospital work. He hoped that if the matter came up again credit would be given to students who underwent such pupilage.

In reply to Mr. THOMSON,

Dr. MACKAY said that the period of pupilage referred to in Section V. was a period of time amounting to six months out of the five years' curriculum. The student would have only a four and a half years' curriculum at a medical school, and might spend six months elsewhere under the charge of a registered practitioner. That was the only pupilage referred to in Section V.

The first recommendation was adopted.

Dr. MACKAY moved that special reference should be made to instruction in the administration of anæsthetics.

Mr. MORRIS, in seconding the motion, said that this was a matter that his colleagues insisted on.

The motion was agreed to.

Dr. MACKAY moved the next recommendation that special reference should be made to attendance at post-mortem examinations.

Dr. LINDSAY STEVEN, in seconding the motion, said that according to the regulations of his medical school in Scotland they endeavoured as far as possible to make all the students attend post-mortem examinations as part of their pathological course. He thought that the time had come for making this a recommendation of the Council.

Mr. YOUNG did not think that mere attendance was of much use and he moved as an amendment that reference

should also be made to taking part in post-mortem examinations.

Dr. BRUCE seconded the amendment.

Dr. MACKAY thought that it would be presuming a little too much if they carried the amendment. He preferred the recommendation as it stood.

Sir JOHN W. MOORE said that the committee after anxious consideration had come to the conclusion that the proposal now made by Mr. Young could not be carried out efficiently in all parts of the United Kingdom.

Mr. MORRIS hoped that the amendment would not be pressed. Although they might all agree with it the matter must depend largely on the size of the school. At his own school this was done, but he could understand that at the University of Edinburgh and large centres like the London Hospital it would be almost impossible for every student to go through a practical course of the kind.

Sir CHRISTOPHER NIXON considered that it would be sufficient if the student attended the post-mortem examinations. The amendment was straining the point too much.

Dr. NORMAN MOORE could not agree with the last speaker. It was his duty to make post-mortem examinations during eight years and he felt that that was one of the most important means of learning a large part of medicine. During that time it was his duty to instruct students and he believed that what one learned by looking on at a post-mortem examination, however valuable, was not nearly all that there was to learn. How much, he asked, did not a man learn, perhaps at some risk, when he put his hand into the peritoneum of a person who had died from peritonitis and felt the smarting of the skin? Similarly, how important it was to learn the enormous thickness of adhesions of the lungs when removed from the chest or to feel the effect on the surface of the brain of a large hæmorrhage. There could be no question that the student who took part would learn much more than the one who only looked on. While in sympathy with the amendment he felt bound, however, to support the finding of the committee.

Dr. MCVAIL thought it was desirable that the students should attend and take part in post-mortem examinations where it was possible.

Dr. LITTLE said that to give elaborate directions was a mistake. He had no sympathy with the letters which he saw in the journals as to calling in the practitioner to make the post-mortem examination. All post-mortem examinations should be made by specialists and he hoped the day would not be far distant when such would be the law.

Dr. SAUNDBY regretted that in the year 1906 the General Medical Council should be debating such a point. It seemed extraordinary that the schools required to be told that students should attend post-mortem examinations. They always had attended so far as he knew.

Mr. BROWN thought that the motion was justified. In London one coroner had deemed it necessary to put aside the calling in of the ordinary practitioner who first saw the case, and did not allow the ordinary practitioner to perform the post-mortem examination on the ground that he had not sufficient pathological instruction. It seemed a great reflection on medical education that coroners should hold the opinion that medical men generally could not perform post-mortem examinations.

The amendment was rejected by 20 votes to 8. Two members did not vote and three were absent.

The recommendation of the committee was then adopted with two dissentients.

Dr. MACKAY moved the last recommendation of the committee that statistics relating to the length of the curriculum under the present regulations should be procured and laid before the Council.

Dr. LINDSAY STEVEN seconded the motion which was agreed to.

The PRESIDENT said it was clear that there were various things in the air which would affect the Council's recommendations very seriously, and it was desirable that when a decision had been come to with regard to the motions of Sir John Batty Tuke and other members the whole batch should be referred to the Education Committee to be cast in an intelligible form.

Dr. MCVAIL: Especially with regard to what is meant by attendance at post-mortem examinations.

Finance Committee.

On the motion of Dr. LINDSAY STEVEN, seconded by Dr. BRUCE, Sir John Batty Tuke was appointed as a Scottish representative on the Finance Committee. Dr. Little was appointed as an Irish representative on the motion of Sir THOMAS MYLES, seconded by Dr. KIDD.

Dental Committee.

Dr. MCVAIL moved that Sir John Batty Tuke should be elected a Scottish representative on the Dental Committee and alluded to the services which that gentleman as a Member of Parliament had rendered to the Council.

Dr. LINDSAY STEVEN seconded the motion which was agreed to.

Examination Committee.

The nomination of Sir Thomas Fraser by the Branch Council for Scotland to succeed Sir Patrick Heron Watson as a member of the Examination Committee was confirmed.

Army and Indian Medical Services Examinations.

On the motion of Dr. MCVAIL, seconded by Mr. BROWN, the following reports by the Examination Committee on the returns forwarded to the General Medical Council of the results of the examinations for commissions in the Army and Indian Medical Services held in July, 1906, were received and entered on the minutes:—

Army Medical Service.

54 candidates submitted themselves to examination; of these, 40 obtained commissions, two were qualified but did not receive commissions, and 12 were rejected. The passes and rejections were as follows:—English Conjoint Board—10 passes, no rejections. Scottish Conjoint Board—1 pass, no rejections. Irish Conjoint Board—9 passes, 8 rejections. University of Durham—3 passes, 2 rejections. University of London—1 pass, no rejections. University of Edinburgh—3 passes, no rejections. University of Glasgow—1 pass, no rejections. University of Aberdeen—2 passes, no rejections. University of Dublin—9 passes, 2 rejections. Royal University—4 passes, no rejections.

Indian Medical Service.

47 candidates submitted themselves to examination; of these, 25 obtained commissions, nine were qualified but did not receive commissions, and 13 were rejected. The passes and rejections were as follows:—English Conjoint Board—13 passes, 2 rejections. Scottish Conjoint Board—4 passes, 3 rejections. Irish Conjoint Board—3 rejections. University of Oxford—1 pass. University of Cambridge—2 passes. University of London—2 passes, 1 rejection. University of Manchester—3 passes. University of Edinburgh—9 passes, 4 rejections. University of Glasgow—2 passes. University of Aberdeen—1 pass. University of Dublin—2 passes. Royal University of Ireland—1 pass, 1 rejection. University of New Zealand—1 pass. University of Bombay—1 pass.

Paragraphs indicating the schools of the graduates taking the first five places in each of the examinations were deleted from the reports before these were received.

The Council adjourned to the following day.

FRIDAY, NOV. 30TH.

The General Medical Council resumed to-day, Dr. MACALISTER, the President, being in the chair.

Grouping of the Curriculum.

Sir JOHN BATTY TUKE moved—

That the note to Requirement III. in regard to professional education be deleted and that in its place the following note should be adopted: "That the Council is of opinion that the required subjects should be divided into two groups, one group comprehending physics, chemistry, elementary biology, anatomy and physiology, the other comprehending all the other subjects; and that the Council is of opinion that no licensing body should recognise instruction in any subject comprehended in the second group until candidates have passed in the subjects comprehended in the first group."

He said that his main object was to ascertain whether the Council was anxious to maintain the position it assumed in 1900 with regard to the curriculum. There was a note which said that the Council offered no opinion as to the manner in which the subjects should be combined or distributed for the purposes of study and examination. That was their official position to-day. It was adopted in the first place because the Council desired to express an opinion that it had no intention to interfere with the autonomy of licensing bodies. A great deal had happened since. Two subjects, physics and biology, were added to the curriculum, but as time went on teaching became more elaborate and the examinations more stringent. He was not going to argue whether that was for good or evil. He simply mentioned it as proving that pressure was placed on the student at the commencement of his career. But pressure also occurred at the end of his career. The final examination became more stringent and pressed on the student. This was due to a great extent to the criticism to which the bodies were subjected during the two cycles of inspection by the inspectors and visitors of the Examination Committee. He had no hesitation in saying that the result of the criticism was to raise the standard of examination in

the year 1906 much higher than it was in 1890. New systems of diagnosis and treatment came into vogue and these helped to produce pressure on the student at the end of his course. His attention had been drawn to the report on the study of midwifery. A large portion of that report he was in perfect sympathy with but he was convinced that it was impossible to carry out any of the recommendations under the existing regulations. It had been suggested that a six years' course should be instituted. He did not approve of it as it would aggravate the evils they were trying to overcome. It had also been suggested that they should lighten the curriculum. He thought that course would entail hardship on the students. It was quite reasonable, in his opinion, that they should recommend the bodies to institute a block. There was no reason why a man should not have along with his chemistry and physics his course of elementary anatomy. He would concur with the suggestion made the previous day by the President that the matter should be remitted to the Education Committee.

Dr. MACKAY seconded the motion.

Sir T. MCCALL ANDERSON said that he was in sympathy with Sir John Batty Tuke so far as his motion related to the crowding out of the final subjects of the medical curriculum by the earlier subjects. His fear was that there might be some members of the Council who were quite in favour of the principle of the second part of the motion but might object to the first part, so that they would be compelled to vote against the whole of the motion. One mode of getting over the difficulty was to extend the period of study beyond five years. He was entirely opposed to that proposal because many industrious, able students were able to go through the whole curriculum and to pass their examinations in the five years. The amendment he would move as a substitute for Sir John Batty Tuke's motion was "that a minimum of two years be devoted to the subjects of the final examination and that no qualifying courses on these subjects be recognised until all the previous examinations are passed."

Sir JOHN W. MOORE seconded the amendment.

Sir THOMAS FRASER was understood to agree with Sir T. McCall Anderson. He supported his argument by statistics relating to the University of Edinburgh from which it appeared that the great majority qualified in five years without any block such as was suggested. He thought it was a pity that incomplete statistics on this matter had been published by the Education Committee. He could not vote for the motion.

Sir CHARLES BALL hoped that neither the motion nor the amendment would be passed in their present form. There was no provision for a reference to the universities and licensing bodies, who had taken a great deal of trouble in arranging their curriculum, to discover whether such courses were at all practicable. It would be highly undesirable for the Council to pass a hard-and-fast rule straight off with reference to a matter of such paramount importance. It would interfere with domestic policy. Many members might agree that theoretically it was desirable to put in a block at some period where the hopeless chronic would be stopped; but was it practicable, and if so, where was the block to be put in? The period suggested was after the examinations in anatomy and physiology, but those examinations were conducted differently in different places. In the University of Dublin it was found impossible to get any course that would enable the students to pass in anatomy and physiology before the end of the third year. If the motion were adopted a student would not be allowed to attend the hospital till his fourth year. He would like to know how a six years' course could be avoided if the whole of the first three years were to be applied to the preliminary science subjects. He thought that a block might be put upon examinations, but to adopt a hard-and-fast block which would prevent education being undergone was a different matter.

Dr. CATON confessed that the subject was a very difficult one. Before they could accept the motion, however, certain very important reforms would require to be effected in the medical curriculum. When the fifth year was added the intention was that it should be given chiefly to those practical and final subjects which constituted the main and most essential part of medical education. They all knew that this fifth year had not had such a destination. He felt that two years were insufficient to-day for that great group of subjects—medicine, pathology, surgery, and all the subsidiary practical science of medicine. Two years were entirely insufficient, and they had only got to compress the preliminary subjects into two or two and a half years or extend the period greatly. What he wanted to see was an earnest effort to compress all the preliminary subjects into the shorter period he had mentioned. It could be done if they were willing to do it. They would then have three or three and a half years for the final subjects. It would be worse for the student if he was allowed to spend three years in the preliminary subjects and was debarred from any study of those great practical subjects which were to form the work of his life until only two years were left to be devoted to them. He felt in an embarrassing position because he could not vote for either the motion or the amendment although he sympathised with both.

Sir CHRISTOPHER NIXON said that he should vote against both the motion and the amendment. The motion was objectionable inasmuch as it implied an unwarrantable interference with the educating bodies. He thought that universities would be perfectly justified in resenting interference with the special function of framing their own regulations. As to the terms of the motion, he contended that in medical education there must necessarily be a great deal of overlapping, and it was an objectionable requirement that no student should be allowed to attend the hospital until the commencement of his fourth year. The whole matter ought to be referred to the Education Committee.

Mr. MORRIS said that the curriculum was like a box which was stuffed, the bottom and sides of which were coming out and the lid of which would not fasten down. It had to be tied and held together by rules and regulations. It was a condition of things that ought not to continue. They could only empty the box or relieve it in one of two ways—either by enlarging the box or by removing some of the contents. In the resolution he had brought forward last year it was his object to lighten the box and to take out of it those things that were at the bottom, the preliminary scientific subjects. The curriculum in the United Kingdom was the shortest in Europe. He was told that if they lengthened the curriculum they would diminish the already diminishing number of men who entered the medical profession. It was said that there had been a gradual drop of students since the curriculum was changed from four to five years, and it was also said that if they made it six years the students would take seven or eight years. That must be a fallacy. Concurrently with the alteration from four to five years, he reminded the Council, there was a necessity for a further extension. The medical profession underwent a regular revolution about 1894, and since then they had been adding subjects of all kinds, making the study of medicine more scientific. He did not think it followed that because it was found necessary that men with a five years' curriculum should extend their studies over six or seven years a properly regulated six years' curriculum would have to be extended proportionately to seven or eight years. He did not think it at all probable. It was incumbent upon the Council and upon licensing bodies to make the length of the curriculum suit the amount of study that had to be put into the curriculum. He addressed a letter to THE LANCET on March 17th which expressed the opinions he still held. If there was a block put in between anatomy and physiology and the subjects behind these well and good, but the London Colleges had gone further because since 1904 they had had a block between the preliminary sciences and the intermediate sciences. No student unless he had passed in the preliminary sciences was allowed to go to the commencement of the study of anatomy and physiology. At the time he thought it would be a mistake and he believed the experience of the Conjoint Board was that it had proved a mistake. If they were to take biology out of the curriculum and say that men should be allowed to study chemistry and physics at the same time as anatomy and physiology, if they had not done so before they entered the hospital, he thought that by this restriction and by keeping them to the three science subjects in the first year of study they would not get enough to do. If they did not put that restriction and allowed them to study physics and chemistry which they might well do without studying anatomy and physiology, time would be gained and they would find that the students would be passed in those several subjects by the end of their second year and they would have three clear years for the study of final subjects. Therefore while they ought to have a block where Sir John Batty Tuke had put it, he regretted the block which existed in his own College. With regard to the amendment he could not support it, when he found that 80 per cent. of the students

took three years to master their subjects after passing through anatomy and physiology. He would support the motion if it were made a reference to the Education Committee and if that committee were instructed to take a large and comprehensive grasp of the subject.

Dr. NORMAN MOORE moved that both the motion and the amendment be remitted to the Education Committee for consideration and report. Speaking on the question at issue he said that the best plan was to leave the student to follow his own notion of how to study. It was impossible that there should be only one experience on the subject of how to prepare a man to practise medicine, surgery, and midwifery. All the universities and qualifying bodies had the power of working out the problem, each in its own country and according to its own conclusions, drawing up its own curriculum. It would be in the highest degree undesirable that it should be possible for this Council's decisions to be the sole decisions on that important subject. That, however, did not take away from the value of having the subject discussed by representatives from every part of the kingdom. With regard to the subject of overlapping he did not think it had been fully considered. Anatomy and physiology as they were now taught were taught mostly by persons devoted to those subjects and not perhaps very profoundly versed in the direct use of those subjects in the future part of medical education. That was more true in regard to chemistry. A radical defect in their discussions of the curriculum was that they had never gone into the subject of how the several subjects ought to be taught. The time had come when they ought thoroughly to consider all the earlier part of the medical curriculum. He would not be satisfied in omitting certain subjects.

Dr. CATON seconded Dr. Norman Moore's motion that the proposals of Sir John Batty Tuke and Sir T. McCall Anderson be remitted to the Education Committee.

The motion was agreed to.

Sir JOHN WILLIAMS moved to add the following motion to the remit :—

> That it is desirable to divide the subjects of the medical curriculum into three groups—viz.: (1) the subjects of the preliminary scientific examinations; (2) the subjects of the intermediate examinations; (3) the subjects of the final examination; and to provide that no instruction in any subject of the last two groups be recognised until the candidate has passed in the subjects of the previous group.

He thought that the Education Committee should make inquiries not only into the amount of medical education required, but also into the means at the command of the students to acquire that medical education, the reasons why the course extended over so many years, and the result of the present training in medicine.

Dr. LITTLE, in seconding the motion, said he would have voted against the original motion and amendment but the matter as it stood now had his fullest sympathy. He could not support Sir John Batty Tuke's proposal because it would interfere with the domestic arrangements of bodies and would not work harmoniously.

Dr. BRUCE spoke in favour of Sir John Williams's motion.

Dr. LINDSAY STEVEN said he thought it would be admitted that the main object of Sir John Batty Tuke was first of all to lighten the curriculum, and secondly to gain more time for the prosecution of the practical subjects of the curriculum. A number of propositions had been made whereby that might be done. He certainly approved of that proposition which would put all those preliminary subjects—biology, physics, and chemistry—into a preliminary examination outside of the curriculum altogether. He did not know whether the time had yet come when the Council would consider favourably such a proposal and he supported the motion made by Sir John Batty Tuke. To introduce a block between the study of anatomy and physiology and the study of the more practical subjects would be a very important change in the curriculum and one that would be likely to encourage the practical study of the qualifying student. A great deal had been said about the length of time. He imagined that for diligent students two years would be quite sufficient, or perhaps two and a half years, to deal with the preliminary part of the curriculum. They would then have two and a half or three years left. According to their experience in Scotland he did not think there was any urgent necessity for lengthening the curriculum. If there was to be any lengthening he would put it on the students themselves. It would only be those students who were decidedly below the average in capacity and industry who would require to lengthen their curriculum to any marked degree. By a block such as was suggested by Sir John Batty Tuke he would be freed from a difficulty he had experienced during his whole career as a clinical and practical teacher. He had constantly been bothered by students coming forward in the study of clinical medicine who were studying at the same time for examinations in anatomy, botany, and zoology, and he felt that he might be demonstrating to the wind for all the good that was being communicated to the students. A block should be put in between the earlier subjects and the later ones. All the opposition to Sir John Batty Tuke's motion had come from the universities and support had come from representatives of corporations. He did not know that the General Medical Council had any direct duty to consider the domestic arrangements of corporations or universities. He thought they must find out what was the proper curriculum and then recommend, whether it upset domestic arrangements or not, that universities and corporations should follow the recommendations. He considered that any proposal to limit the qualifying period to a minimum of two years was a reactionary proposal.

Sir THOMAS MYLES said he opposed the motion on behalf of the Royal College of Surgeons in Ireland. It had been tried in Ireland and there was hopeless disaster. They did not believe that a student at the end of his second or third year should be prohibited from entering the dissecting room or visiting the hospital. They were not possessed of this obsession for metallic uniformity.

Mr. THOMSON was of opinion that in all the proposals there were difficulties.

Dr. MCVAIL said all the classes in the universities of Scotland were open to any person who chose to take them and there was no power on the part of any university authority to hinder a man from taking them. It would require an Act of Parliament, which, of course, could not be obtained, to enable this motion to take effect.

The discussion having been closured the motion was agreed to, so that the proposals of Sir John Batty Tuke, Sir T. McCall Anderson, and Sir John Williams were all remitted to the Education Committee for consideration and report.

On the motion of Dr. KIDD, seconded by Dr. SAUNDBY, the Education Committee was instructed to supply the Council with information as to the ages at which students entered and qualified under the several qualifying bodies.

Dr. MACKAY moved that the existing arrangements and recommendations of the Council regarding professional education be referred to the Education Committee with instructions to prepare a revised statement of them with such amendments as the committee might think fit to propose for the Council's consideration.

Dr. LINDSAY STEVEN seconded the motion which was agreed to.

Final Examination of the Apothecaries' Hall of Ireland.

On the motion of Dr. MCVAIL, seconded by Mr. YOUNG, the following report of the Examination Committee was received, entered on the minutes, and approved.

REPORT BY ASSISTANT EXAMINERS IN SURGERY (SIR HENRY G. HOWSE AND MR. ALEXIS THOMSON), ACTING ALSO AS INSPECTORS TO THE GENERAL MEDICAL COUNCIL, ON THE FINAL EXAMINATION OF THE APOTHECARIES' HALL, DUBLIN (JULY, 1906).

FINAL EXAMINATION.

Four candidates presented themselves for this examination. Of these one had already passed in ophthalmology; the other three were exempt for various reasons under the regulations. There was therefore no examination in this subject on the present occasion. In surgery all four candidates presented themselves. One of these retired from the written examination, having only attempted to answer (badly) three questions out of six. He consequently did not present himself for the rest of the surgical examination. The other three went through the whole of the surgery but failed to obtain the necessary 50 per cent. to entitle them to pass. They were therefore all rejected. In medicine one candidate was exempt, the other three presented themselves; two of these did not obtain the necessary 50 per cent. in the clinical; they were therefore rejected and not allowed to present themselves for the rest of the examination. The other candidate just obtained 50 per cent.; he did not, however, obtain 50 per cent. in midwifery; and as he had been rejected in surgery, was rejected in all subjects. Of the other three candidates in midwifery only one obtained 50 per cent., but as he had already failed in medicine and surgery he was rejected. The other two candidates were below the 50 per cent. standard and were consequently rejected. The net result of the examination, therefore, is that all the candidates were rejected. We were satisfied with the methods by which the examination was conducted and that the standard of knowledge required was sufficient.

The Examination Committee adopted the opinion of the assistant examiners.

Sir JOHN W. MOORE moved :—

That the Governor and Court of the Apothecaries' Hall, Dublin, be requested to furnish, for the information of the Council, a statement

the year 1906 much higher than it was in 1890. New systems of diagnosis and treatment came into vogue and these helped to produce pressure on the student at the end of his course. His attention had been drawn to the report on the study of midwifery. A large portion of that report he was in perfect sympathy with but he was convinced that it was impossible to carry out any of the recommendations under the existing regulations. It had been suggested that a six years' course should be instituted. He did not approve of it as it would aggravate the evils they were trying to overcome. It had also been suggested that they should lighten the curriculum. He thought that course would entail hardship on the students. It was quite reasonable, in his opinion, that they should recommend the bodies to institute a block. There was no reason why a man should not have along with his chemistry and physics his course of elementary anatomy. He would concur with the suggestion made the previous day by the President that the matter should be remitted to the Education Committee.

Dr. MACKAY seconded the motion.

Sir T. MCCALL ANDERSON said that he was in sympathy with Sir John Batty Tuke so far as his motion related to the crowding out of the final subjects of the medical curriculum by the earlier subjects. His fear was that there might be some members of the Council who were quite in favour of the principle of the second part of the motion but might object to the first part, so that they would be compelled to vote against the whole of the motion. One mode of getting over the difficulty was to extend the period of study beyond five years. He was entirely opposed to that proposal because many industrious, able students were able to go through the whole curriculum and to pass their examinations in the five years. The amendment he would move as a substitute for Sir John Batty Tuke's motion was "that a minimum of two years be devoted to the subjects of the final examination and that no qualifying courses on these subjects be recognised until all the previous examinations are passed."

Sir JOHN W. MOORE seconded the amendment.

Sir THOMAS FRASER was understood to agree with Sir T. McCall Anderson. He supported his argument by statistics relating to the University of Edinburgh from which it appeared that the great majority qualified in five years without any block such as was suggested. He thought it was a pity that incomplete statistics on this matter had been published by the Education Committee. He could not vote for the motion.

Sir CHARLES BALL hoped that neither the motion nor the amendment would be passed in their present form. There was no provision for a reference to the universities and licensing bodies, who had taken a great deal of trouble in arranging their curriculum, to discover whether such courses were at all practicable. It would be highly undesirable for the Council to pass a hard-and-fast rule straight off with reference to a matter of such paramount importance. It would interfere with domestic policy. Many members might agree that theoretically it was desirable to put in a block at some period where the hopeless chronic would be stopped; but was it practicable, and if so, where was the block to be put in? The period suggested was after the examinations in anatomy and physiology, but those examinations were conducted differently in different places. In the University of Dublin it was found impossible to get any course that would enable the students to pass in anatomy and physiology before the end of the third year. If the motion were adopted a student would not be allowed to attend the hospital till his fourth year. He would like to know how a six years' course could be avoided if the whole of the first three years were to be applied to the preliminary science subjects. He thought that a block might be put upon examinations, but to adopt a hard-and-fast block which would prevent education being undergone was a different matter.

Dr. CATON confessed that the subject was a very difficult one. Before they could accept the motion, however, certain very important reforms would require to be effected in the medical curriculum. When the fifth year was added the intention was that it should be given chiefly to those practical and final subjects which constituted the main and most essential part of medical education. They all knew that this fifth year had not had such a destination. He felt that two years were insufficient to-day for that great group of subjects—medicine, pathology, surgery, and all the subsidiary practical science of medicine. Two years were entirely insufficient, and they had only got to compress the preliminary subjects into two or two and a half years or extend the period greatly. What he wanted to see was an earnest effort to compress all the preliminary subjects into the shorter period he had mentioned. It could be done if they were willing to do it. They would then have three or three and a half years for the final subjects. It would be worse for the student if he was allowed to spend three years in the preliminary subjects and was debarred from any study of those great practical subjects which were to form the work of his life until only two years were left to be devoted to them. He felt in an embarrassing position because he could not vote for either the motion or the amendment although he sympathised with both.

Sir CHRISTOPHER NIXON said that he should vote against both the motion and the amendment. The motion was objectionable inasmuch as it implied an unwarrantable interference with the educating bodies. He thought that universities would be perfectly justified in resenting interference with the special function of framing their own regulations. As to the terms of the motion, he contended that in medical education there must necessarily be a great deal of overlapping, and it was an objectionable requirement that no student should be allowed to attend the hospital until the commencement of his fourth year. The whole matter ought to be referred to the Education Committee.

Mr. MORRIS said that the curriculum was like a box which was stuffed, the bottom and sides of which were coming out and the lid of which would not fasten down. It had to be tied and held together by rules and regulations. It was a condition of things that ought not to continue. They could only empty the box or relieve it in one of two ways—either by enlarging the box or by removing some of the contents. In the resolution he had brought forward last year it was his object to lighten the box and to take out of it those things that were at the bottom, the preliminary scientific subjects. The curriculum in the United Kingdom was the shortest in Europe. He was told that if they lengthened the curriculum they would diminish the already diminishing number of men who entered the medical profession. It was said that there had been a gradual drop of students since the curriculum was changed from four to five years, and it was also said that if they made it six years the students would take seven or eight years. That must be a fallacy. Concurrently with the alteration from four to five years, he reminded the Council, there was a necessity for a further extension. The medical profession underwent a regular revolution about 1894, and since then they had been adding subjects of all kinds, making the study of medicine more scientific. He did not think it followed that because it was found necessary that men with a five years' curriculum should extend their studies over six or seven years a properly regulated six years' curriculum would have to be extended proportionately to seven or eight years. He did not think it at all probable. It was incumbent upon the Council and upon licensing bodies to make the length of the curriculum suit the amount of study that had to be put into the curriculum. He addressed a letter to THE LANCET on March 17th which expressed the opinions he still held. If there was a block put in between anatomy and physiology and the subjects behind these well and good, but the London Colleges had gone further because since 1904 they had had a block between the preliminary sciences and the intermediate sciences. No student unless he had passed in the preliminary sciences was allowed to go to the commencement of the study of anatomy and physiology. At the time he thought it would be a mistake and he believed the experience of the Conjoint Board was that it had proved a mistake. If they were to take biology out of the curriculum and say that men should be allowed to study chemistry and physics at the same time as anatomy and physiology, if they had not done so before they entered the hospital, he thought that by this restriction and by keeping them to the three science subjects in the first year of study they would not get enough to do. If they did not put that restriction and allowed them to study physics and chemistry which they might well do without studying anatomy and physiology, time would be gained and they would find that the students would be passed in those several subjects by the end of their second year and they would have three clear years for the study of final subjects. Therefore while they ought to have a block where Sir John Batty Tuke had put it, he regretted the block which existed in his own College. With regard to the amendment he could not support it, when he found that 80 per cent. of the students

took three years to master their subjects after passing through anatomy and physiology. He would support the motion if it were made a reference to the Education Committee and if that committee were instructed to take a large and comprehensive grasp of the subject.

Dr. NORMAN MOORE moved that both the motion and the amendment be remitted to the Education Committee for consideration and report. Speaking on the question at issue he said that the best plan was to leave the student to follow his own notion of how to study. It was impossible that there should be only one experience on the subject of how to prepare a man to practise medicine, surgery, and midwifery. All the universities and qualifying bodies had the power of working out the problem, each in its own country and according to its own conclusions, drawing up its own curriculum. It would be in the highest degree undesirable that it should be possible for this Council's decisions to be the sole decisions on that important subject. That, however, did not take away from the value of having the subject discussed by representatives from every part of the kingdom. With regard to the subject of overlapping he did not think it had been fully considered. Anatomy and physiology as they were now taught were taught mostly by persons devoted to those subjects and not perhaps very profoundly versed in the direct use of those subjects in the future part of medical education. That was more true in regard to chemistry. A radical defect in their discussions of the curriculum was that they had never gone into the subject of how the several subjects ought to be taught. The time had come when they ought thoroughly to consider all the earlier part of the medical curriculum. He would not be satisfied in omitting certain subjects.

Dr. CATON seconded Dr. Norman Moore's motion that the proposals of Sir John Batty Tuke and Sir T. McCall Anderson be remitted to the Education Committee.

The motion was agreed to.

Sir JOHN WILLIAMS moved to add the following motion to the remit :—

That it is desirable to divide the subjects of the medical curriculum into three groups—viz. : (1) the subjects of the preliminary scientific examinations; (2) the subjects of the intermediate examinations; (3) the subjects of the final examination; and to provide that no instruction in any subject of the last two groups be recognised until the candidate has passed in the subjects of the previous group.

He thought that the Education Committee should make inquiries not only into the amount of medical education required, but also into the means at the command of the students to acquire that medical education, the reasons why the course extended over so many years, and the result of the present training in medicine.

Dr. LITTLE, in seconding the motion, said he would have voted against the original motion and amendment but the matter as it stood now had his fullest sympathy. He could not support Sir John Batty Tuke's proposal because it would interfere with the domestic arrangements of bodies and would not work harmoniously.

Dr. BRUCE spoke in favour of Sir John Williams's motion.

Dr. LINDSAY STEVEN said he thought it would be admitted that the main object of Sir John Batty Tuke was first of all to lighten the curriculum, and secondly to gain more time for the prosecution of the practical subjects of the curriculum. A number of propositions had been made whereby that might be done. He certainly approved of that proposition which would put all those preliminary subjects—biology, physics, and chemistry—into a preliminary examination outside of the curriculum altogether. He did not know whether the time had yet come when the Council would consider favourably such a proposal and he supported the motion made by Sir John Batty Tuke. To introduce a block between the study of anatomy and physiology and the study of the more practical subjects would be a very important change in the curriculum and one that would be likely to encourage the practical study of the qualifying student. A great deal had been said about the length of time. He imagined that for diligent students two years would be quite sufficient, or perhaps two and a half years, to deal with the preliminary part of the curriculum. They would then have two and a half or three years left. According to their experience in Scotland he did not think there was any urgent necessity for lengthening the curriculum. If there was to be any lengthening he would put it on the students themselves. It would only be those students who were decidedly below the average in capacity and industry who would require to lengthen their curriculum to any marked degree. By a block such as was suggested by Sir John Batty Tuke he would be freed from a difficulty he had experienced during his whole career as a clinical and practical teacher. He had constantly been bothered by students coming forward in the study of clinical medicine who were studying at the same time for examinations in anatomy, botany, and zoology, and he felt that he might be demonstrating to the wind for all the good that was being communicated to the students. A block should be put in between the earlier subjects and the later ones. All the opposition to Sir John Batty Tuke's motion had come from the universities and support had come from representatives of corporations. He did not know that the General Medical Council had any direct duty to consider the domestic arrangements of corporations or universities. He thought they must find out what was the proper curriculum and then recommend, whether it upset domestic arrangements or not, that universities and corporations should follow the recommendations. He considered that any proposal to limit the qualifying period to a minimum of two years was a reactionary proposal.

Sir THOMAS MYLES said he opposed the motion on behalf of the Royal College of Surgeons in Ireland. It had been tried in Ireland and there was hopeless disaster. They did not believe that a student at the end of his second or third year should be prohibited from entering the dissecting room or visiting the hospital. They were not possessed of this obsession for metallic uniformity.

Mr. THOMSON was of opinion that in all the proposals there were difficulties.

Dr. MCVAIL said all the classes in the universities of Scotland were open to any person who chose to take them and there was no power on the part of any university authority to hinder a man from taking them. It would require an Act of Parliament, which, of course, could not be obtained, to enable this motion to take effect.

The discussion having been closured the motion was agreed to, so that the proposals of Sir John Batty Tuke, Sir T. McCall Anderson, and Sir John Williams were all remitted to the Education Committee for consideration and report.

On the motion of Dr. KIDD, seconded by Dr. SAUNDBY, the Education Committee was instructed to supply the Council with information as to the ages at which students entered and qualified under the several qualifying bodies.

Dr. MACKAY moved that the existing arrangements and recommendations of the Council regarding professional education be referred to the Education Committee with instructions to prepare a revised statement of them with such amendments as the committee might think fit to propose for the Council's consideration.

Dr. LINDSAY STEVEN seconded the motion which was agreed to.

Final Examination of the Apothecaries' Hall of Ireland.

On the motion of Dr. MCVAIL, seconded by Mr. YOUNG, the following report of the Examination Committee was received, entered on the minutes, and approved.

REPORT BY ASSISTANT EXAMINERS IN SURGERY (SIR HENRY G. HOWSE AND MR. ALEXIS THOMSON), ACTING ALSO AS INSPECTORS TO THE GENERAL MEDICAL COUNCIL, ON THE FINAL EXAMINATION OF THE APOTHECARIES' HALL, DUBLIN (JULY, 1906).

FINAL EXAMINATION.

Four candidates presented themselves for this examination. Of these one had already passed in ophthalmology; the other three were exempt for various reasons under the regulations. There was therefore no examination in this subject on the present occasion. In surgery all four candidates presented themselves. One of these retired from the written examination, having only attempted to answer (badly) three questions out of six. He consequently did not present himself for the rest of the surgical examination. The other three went through the whole of the surgery but failed to obtain the necessary 50 per cent. to entitle them to pass. They were therefore all rejected. In medicine one candidate was exempt, the other three presented themselves; two of these did not obtain the necessary 50 per cent. in the clinical; they were therefore rejected and not allowed to present themselves for the rest of the examination. The other candidate just obtained 50 per cent.; he did not, however, obtain 50 per cent. in midwifery; and as he had been rejected in surgery, was rejected in all subjects. Of the other three candidates in midwifery only one obtained 50 per cent., but as he had already failed in medicine and surgery he was rejected. The other two candidates were below the 50 per cent. standard and were consequently rejected. The net result of the examination, therefore, is that all the candidates were rejected. We were satisfied with the methods by which the examination was conducted and that the standard of knowledge required was sufficient.

The Examination Committee adopted the opinion of the assistant examiners.

Sir JOHN W. MOORE moved :—

That the Governor and Court of the Apothecaries' Hall, Dublin, be requested to furnish, for the information of the Council, a statement

showing in reference to the final or qualifying examination of that body:—

(1) The number of candidates who have presented themselves for the said examination since the appointment of assistant examiners in surgery by the Council.

(2) The number of candidates who have been successful at the said examination.

(3) The subjects in which the respective candidates presented themselves at the said examination.

(4) The numbers rejected in each of the subjects of medicine, surgery, and midwifery.

Sir THOMAS MYLES seconded the motion which was carried by 12 votes to 9.

As seven members present did not vote.

Mr. THOMSON challenged the decision of the Council on the ground that the votes of a majority of those present were required under the Medical Act of 1858.

The PRESIDENT ruled that as the vote was challenged the motion had not been carried.

Assistant Examiners at the Apothecaries' Hall of Ireland.

Dr. ADYE-CURRAN moved that the Council, while recognising the services of the assistant examiners in surgery at the Apothecaries' Hall of Ireland intimates to them that in order to establish a system of rotation in the examinership the Council has decided that their present appointment shall terminate next May.

Dr. SAUNDBY seconded the motion which was agreed to, and the President was authorised to write to the assistant examiners thanking them for their services to the Council.

Students' Practical Midwifery Committee.

Sir JOHN WILLIAMS moved that the report by the Students' Practical Midwifery Committee on the communications sent by the licensing bodies and teaching institutions of the United Kingdom in answer to a request of their observations on the report presented to the General Medical Council on May 23th, 1906, be received and entered on the minutes.

This was seconded by Mr. YOUNG and agreed to.

The report stated that

On May 23, 1906, the General Council received and entered in the minutes a report by the Students' Practical Midwifery Committee and passed thereon the following resolution: "That this report be sent to all the licensing bodies and teaching institutions for their information and for any observations they may desire to make thereon; and that these observations be considered at the next session of the Council." On June 11th, 1906, the Registrar accordingly sent the report, with the following covering letter, to all the licensing bodies and teaching institutions in the United Kingdom other than those recognised for the first year's subjects:—

General Council of Medical Education and Registration of the United Kingdom, 299, Oxford-street, London, W.
June 11th, 1906.

DEAR SIR,—I am directed to forward you the enclosed copy of a report received by this Council from the Students' Practical Midwifery Committee, which is sent for the information of your body, and for any observations that it may desire to make on this important subject. As the observations that may be sent in by the various bodies and institutions will be considered at the next session of this Council I should be obliged by the receipt in good time of any communication you may be instructed to make. Yours faithfully,
H. E. ALLEN, Registrar.

A supplementary letter to the like effect, which is referred to in some of the answers, was sent by the Registrar on Oct. 1st, 1906, to those bodies which had not then replied.

I.—The following are the bodies to which the report of the Students' Practical Midwifery Committee, with the circular letter of June 11th, 1906, was sent:—The Royal College of Physicians of London; the Royal College of Surgeons of England; the English Conjoint Board; the Apothecaries' Society of London; the University of Oxford; the University of Cambridge; the University of Durham; the University of London; the Victoria University of Manchester; the University of Birmingham; the University of Liverpool; the University of Leeds; the University of Sheffield; the Royal College of Physicians of Edinburgh; the Royal College of Surgeons of Edinburgh; the Faculty of Physicians and Surgeons of Glasgow; the Scottish Conjoint Board; the University of Edinburgh; the University of Glasgow; the University of Aberdeen; the University of St. Andrews; the Royal College of Physicians of Ireland; the Royal College of Surgeons in Ireland; the Irish Conjoint Board; the Apothecaries' Hall, Dublin; the University of Dublin; the Royal University of Ireland; Charing Cross Hospital; Guy's Hospital; King's College Hospital; London Hospital; London Medical School for Women; Middlesex Hospital; St. Bartholomew's Hospital; St. George's Hospital; St. Mary's Hospital; St. Thomas's Hospital; University College Hospital; Westminster Hospital; Bristol University College; University College of South Wales and Monmouthshire; Anderson's College; Edinburgh Medical College for Women; Queen Margaret College; St. Mungo's College; School of Medicine of the Royal Colleges, Edinburgh; Dundee University College; Catholic University, Dublin; Queen's College, Belfast; Queen's College, Cork; Queen's College, Galway.

II.—Answers, with comments, have now been received from the following bodies: Apothecaries' Society of London; University of Cambridge; University of Durham; Victoria University of Manchester; University of Birmingham; University of Liverpool; University of Leeds; University of Sheffield; Royal College of Physicians of Edinburgh; Royal College of Surgeons of Edinburgh; Faculty of Physicians and Surgeons of Glasgow; Scottish Conjoint Board; University of Edinburgh; University of Aberdeen; University of St. Andrews; Royal College of Physicians of Ireland; Royal College of Surgeons in Ireland; Apothecaries' Hall, Dublin; University of Dublin; Royal University of Ireland; Charing Cross Hospital; London Hospital; London School of Medicine for Women; St. George's Hospital; St. Mary's Hospital; St. Thomas's Hospital; Westminster Hospital; Bristol University College; University College of South Wales and Monmouthshire (none to offer); Anderson's College; St. Mungo's College; Queen's College, Belfast; Queen's College, Cork.

III.—Communications have been received from the following bodies, showing that the report is, or has been, under consideration, and that observations may be expected: Royal College of Physicians of London; Royal College of Surgeons of England; English Conjoint Board; University of London; Irish Conjoint Board; Guy's Hospital; University College Hospital.

The observations from the bodies in Paragraph II. are found in the appendix to the report. The committee, having carefully considered these observations, have modified the recommendations submitted in their former report to meet, as far as seemed to them advisable, the various comments and criticisms sent. The committee accordingly submit their former recommendations in the following revised form:—

1. That the following be substituted for the existing recommendations of the Council in regard to instruction in midwifery: (1) Every student before commencing the study of practical midwifery shall be required to have held the offices of clinical medical clerk and surgical dresser. (2) Every student shall be required either (a) to have regularly attended the indoor practice of a lying-in hospital for a period of three months; and to have received therein practical instruction in the conduct of labour under the personal supervision of a medical officer and thereafter conducted 20 cases of labour under official medical supervision; or (b) to have conducted not less than 20 cases of labour, subject to the following conditions—to have, during one month, given regular daily attendance upon the indoor practice of a lying-in hospital or the lying-in wards of a general hospital; and to have therein conducted cases of labour under the personal supervision of a medical officer of the hospital, who shall, when satisfied of the student's competence, authorise him to conduct outdoor cases under official medical supervision. (3) No certificate that the student has conducted the above-mentioned 20 cases of labour should be accepted unless it is given by a member of the staff of a lying-in hospital or of the maternity charity of a general hospital or of a dispensary having an adequate obstetric staff.

2. That copies of this report and of the resolution of the Council thereupon be sent to all licensing bodies and medical schools in the United Kingdom.

The PRESIDENT stated that he had received assurances from other bodies that their reports were in active preparation and would be sent in as soon as possible.

It was agreed to dispense with the consideration of the committee's recommendations in view of the fact that the reports were not complete.

Extension of the Medical Act to Nova Scotia and Japan.

The PRESIDENT made a statement on behalf of the Executive Committee in regard to the extension of Part II. of the Medical Act, 1886, to Nova Scotia and Japan. He said that with regard to Japan certain additional information had come in with regard to qualifications other than university degrees on which the committee was not able to come to a definite determination until some changes in the law had come into operation. That decision would be communicated to the authorities in Japan and when the proper time came the report of the Council would be made in due course. With regard to Nova Scotia, applications had come in and had been considered by the Executive Committee which had come to a decision of a temporary kind. The committee proposed to communicate that decision to Nova Scotia, but it was considered that it would be courteous to await an answer from Nova Scotia before making a communication to the Council. When the documents were complete they would be communicated.

Dental Education and Examination Committee.

Mr. TOMES moved that the following report from the Dental Education and Examination Committee be received and entered on the minutes:—

UNIVERSITY OF NEW ZEALAND.

An application for the registration of the degree of Bachelor in Dental Surgery has been received from the Senate of the University of New Zealand. The curriculum extends over four years and the preliminary examination is the same as that required from medical students. There are three professional examinations, the first embracing physics, chemistry, organic chemistry, and dental anatomy; the second, anatomy, physiology, materia medica, and dental mechanics and metallurgy; and the final examination, pathology, bacteriology, oral surgery and pathology, dental surgery, and operative dental surgery.

The special dental subjects are amply represented in the curriculum, several of the courses being defined as to consist of not less than 60 or 100 lectures, and may be considered as the general equivalent of our own courses, some, indeed, being longer. With regard to general subjects, 100 lectures on human anatomy are required, 100 on physiology, and six months' dissection, followed by 60 lectures on pathology and a practical course of pathology and bacteriology, 60 lectures on surgery, including the surgery of the mouth, and a course of lectures on medicine. The surgical practice of a general hospital must be attended for six months. This latter is a somewhat short period, but in other respects the general side is well represented in the curriculum.

A good feature in the requirements is that certificates of attendance upon classes must state that the candidate has satisfied his teacher.

Certain equivalent courses are accepted in lieu of those of the University and examinations passed in chemistry or physics at a university in the United Kingdom or colonies or at the English licensing bodies exempt from examination in these subjects. The University has taken a somewhat new departure in instituting a lower grade of dental practitioners, who receive no degree, but a certificate of proficiency in dental surgery, for which recognition is not sought. For this the candidate is not required to matriculate and not required to pass the first examination, but in lieu thereof may pass the chemistry and physics matriculation papers, and he is not required to attend the surgical practice of a general hospital. Local conditions may render the institution of this lower grade certificate necessary, though the necessity is to be regretted. All degrees or diplomas granted by universities in the United Kingdom, or by the Royal Colleges of Surgeons, all degrees or diplomas recognised by the General Medical Council, and all colonial or foreign degrees or diplomas granted after a four years' course taken subsequently to the passing of a preliminary examination equal to that required by the University of New Zealand qualify for registration, so that the requirement of reciprocity is satisfied.

The committee recommends that the Council accede to the request of the University of New Zealand for the recognition of their degree of Bachelor in Dental Surgery.

UNIVERSITY OF SYDNEY.

An application has been received from the Senate of the University of Sydney for the recognition of their degree of Bachelor of Dental Surgery, which is conferred by examination after the fulfilment of the prescribed curriculum. It therefore becomes necessary to compare the curriculum set out with that obtaining in this country and to note the differences.

The preliminary examination is the same as that prescribed for medical students and may therefore be considered as adequate. The curriculum extends over four years, with examinations at the end of the first, third, and fourth years, and two during the course of the second and third years, so that five examinations in addition to the preliminary examination in arts have to be passed in all. The first examination embraces physics and chemistry; the second, anatomy; the third, physiology; the fourth, dental surgery, mechanical dentistry, pathology, and bacteriology; and the fifth, a final examination, dental surgery, mechanical dentistry, and surgery. The courses of lectures in the various years, whilst not quite identical with those generally required in this country, present a general full equivalency. It is not, however, quite clear whether the instruction given in medicine and surgery is given at a medical school or at a special school, the expression used in the Calendar being "special clinical courses, (*a*) medicine, (*b*) surgery." There is also a course on surgery and special dental surgery, all of these being taken in the fourth year. It would appear, therefore, that the acquirement of some acquaintance with the general principles of medicine and surgery is not, so far as can be gathered from the Calendar, so fully safeguarded as in the requirements, for example, of the Royal College of Surgeons of England, in which courses of lectures on anatomy, on physiology, practical physiology, surgery, medicine, 12 months of dissection, and the practice of surgery, and clinical lectures on surgery during two winter sessions must have been attended at a recognised medical school.

As, even in the case of recognition of certain courses taken elsewhere, every candidate for the degree of Bachelor of Dental Surgery must have attended the courses for at least six terms within the University of Sydney, it is possible that more of the work has in fact to be done at a general medical school than is apparent from the Calendar. But as the attempt to give the medical and surgical portion of dental education entirely at a special school has been objected to by the Council in the case of other colonial qualifications, it appears to the Dental Education Committee that it is desirable to obtain a little more definite information upon this point than the Calendar affords. Samples of the papers set in the dental examinations, some of which are identical with those required in other Faculties of the University, are appended to the Calendar and are of a satisfactory nature. That upon surgery, however, is confined to questions which might well have been set on a paper on dental surgery, and might with advantage be somewhat more widely extended. Further information is also required as to the reciprocal recognition of British qualifications.

Recommendation.—That the further consideration of the application of the University of Sydney be postponed for further information on the points indicated.

COLLEGE OF DENTAL SURGEONS OF QUEBEC.

The committee is informed that an application has been received from the College of Dental Surgeons of the Province of Quebec asking that their preliminary examination in general knowlege may be recognised by the General Medical Council. The Education Committee has recommended that this examination be not recognised.

DENTAL BOARD OF NEW SOUTH WALES.

For the information of the General Medical Council full reports of a disciplinary case heard before the Dental Board of New South Wales have been forwarded. The complaint was that a gentleman possessed of the degree of Bachelor of Dental Surgery had wrongfully assumed the title of "Dr." and the defence offered was that a precedent had been established by Bachelors of Medicine assuming the title of "Dr.," though not possessing the doctorate. Finally no action was taken by the Board who, however, expressed disapproval of the use of the title of "Dr." by Bachelors of Dental Surgery.

INSTRUCTION IN MECHANICAL DENTISTRY.

The attention of the Dental Education and Examination Committee has been called by the Dental Board of the University of Liverpool to the fact that they, in framing the regulations for the Degree of Bachelor and Master of Dental Surgery, and also for the Licence in Dental Surgery, have closely observed the recommendations of the General Medical Council, amongst which pupilage for instruction in Mechanical Dentistry during not less than three years is one. At the same time attention is drawn to the present regulations of the Royal College of Surgeons of England, under which only two years are required. The committee would add that a two-year period has also been adopted by the Victoria University of Manchester. It is urged by the University that the student's time is so fully occupied with lectures and other work during at least two years out of the four of his professional study that he can hardly acquire an adequate knowledge of mechanical dentistry unless the period of study be extended over the three years as originally proposed by the Council. On the other hand, it may be urged that the student has to spend four years in professional study, and that, apart from chemistry and physics, the lectures and practical courses required can be attended in two years; hence two years are left, the greater part of which can be, and in the case of pupilage usually is, mainly devoted to mechanical dentistry, and that its extension over a third year, during which the pupil will be closely occupied with other studies, may in practice become merely nominal.

Recommendation.—That the recommendation relating to the period of study in mechanical dentistry be amended by the substitution of "not less than two years" for the words "three years."

Mr. MORRIS seconded the motion which was agreed to.

The recommendations of the committee were moved by Mr. TOMES, seconded by Mr. MORRIS, and agreed to.

Pharmacopœia Committee.

On the motion of Dr. NORMAN MOORE, seconded by Sir JOHN W. MOORE, the following report of the Pharmacopœia Committee was received and entered on the minutes:—

From May 29th, 1906, to Nov. 17th, 1906, the number of copies of the British Pharmacopœia (1898) sold by the publishers was 595. The total number of copies sold in the year beginning Nov. 21st, 1905, was 1081. Up to the present time 38,149 copies of the Pharmacopœia and 4421 of the Indian and Colonial Addendum have been sold. The stock of the Pharmacopœia remaining on hand now consists of 1878 copies, with 1943 copies of the Addendum. From the Committee of Reference in Pharmacy a valuable report has been received which contains a number of definite recommendations for the revision of the Pharmacopœia, and suggests that certain questions raised by published criticisms on the work should be made the subject of further investigation. The committee have resolved to publish the report for the information of practitioners and pharmacists, and propose to take into consideration its recommendations, and the published comments to which they may give rise, when the form and contents of the next Pharmacopœia are under discussion.

The thanks of the Council are due to the Committee of Reference for the time and skill which they have bestowed on this important work. It is hoped that they will continue their inquiries on the questions relating to pharmacopœial revision which are still outstanding, and that they will favour the Pharmacopœia Committee with further reports thereon.

Dr. NORMAN MOORE moved that the report be adopted and that the thanks of the Council be given to the Committee of Reference for the time and skill it had bestowed upon its important work, with an expression of the hope that the Committee of Reference would continue its inquiries.

Sir JOHN W. MOORE seconded the motion.

The PRESIDENT said that thanks were certainly due to the pharmacists who were working for them and making suggestions which were likely to be of great use in connexion with the revision of the Pharmacopœia.

The motion was agreed to.

Representative Members of the Council.

Mr. BROWN moved:—

That representations be made to the Privy Council that it is expedient to confer on the registered practitioners resident in England and Wales the power of returning an additional member of the General Council.

He mentioned that in 1885 there were about 20 000 practitioners in England and Wales as compared with 24,631 at the present time. The three representatives of England and Wales represented altogether 28,000 practitioners if the 3000 practitioners in the public services were included. With such a large increase he thought that the motion was justified.

Mr. JACKSON seconded the motion.

12 members voted against the motion and 10 for, 2 declining to vote and 9 being absent.

The motion was accordingly rejected.

Vote of Thanks to the President.

On the motion of Dr. BRUCE, seconded by Mr. BROWN, the President was accorded a vote of thanks and the proceedings of the session closed.

BRIDGWATER HOSPITAL.—The ninety-third annual meeting of the subscribers to the Bridgwater Hospital was held on Nov. 15th under the presidency of the mayor. The chairman in his speech referred to the fact that the charity had experienced a most successful year and that this was the first annual meeting since the hospital had been made a free institution. The medical report stated that the number of in-patients and out-patients was largely in excess of former years.

THE LANCET.

LONDON: SATURDAY, DECEMBER 8, 1906.

The Recent Session of the General Medical Council.

FOR the third time in four sessions a meeting of the General Medical Council has come to an end in the same week as it had its beginning. The recent session commenced on Tuesday, Nov. 27th, and ended on the following Friday, Nov. 30th, and during the four days of deliberation an interesting and varied programme was disposed of. There is no doubt that a spirit of despatch has come over the Council. The debates are more brief and business-like than they used to be, and time is no longer wasted in personal altercations, in the delivery of academic addresses under the guise of contribution to discussions, or in the making of gallery speeches. The penal cases were thoroughly dealt with and as they fell under the usual categories they presented no particular difficulty. The discussion of changes in the educational curriculum occupied the greater part of one day's sitting, and we suppose that some action may now be considered inevitable from the persistency with which the necessity for reform is urged in recurring debates. Some interesting dental business was transacted, the publication of a number of definite recommendations for the revision of the pharmacopœia was announced, the system by which medical students pass a portion of their statutory time as students in pupilage to general practitioners was abolished, and the increase of the number of Direct Representatives for England and Wales was debated. Critics of the methods of the General Medical Council, and they are many, ought to note that this is a large programme, and if they read the report published in our columns—which, though a necessarily abbreviated account, still, we believe, gives the gist of what happened—they must admit that the Council has tackled grave questions in a statesmanlike way. In particular we would urge those of our correspondents who find the methods of the General Medical Council mealy-mouthed, and who ask for a strong man to speak out boldly, to recognise that if the General Medical Council is to be of practical use it must not be bankrupt, and that the profession has had in the past to pay a high price for the long speeches of members of the Council. The General Medical Council has no State endowment, its sittings cost about £250 a day, and he is no true friend to the medical profession who desires to have the sessions extended merely that we may have reiterated in polysyllables facts and arguments the justice of which we all acknowledge, and acquiescence in which we most of us take for granted. The curtailing of the sessions that has recently taken place is of great financial benefit to the Council, and so far as we can see there has been no stifling of debate.

The business of the Council during this session with which the general practitioner is more particularly concerned has had a rather disappointing issue, at any rate we fear that the advanced school of reformers will be dissatisfied; but while we sympathise with them in many ways we would ask them to believe that the decisions to which the Council has come were probably the wise and practical ones. The Council has abolished all attempt at apprenticeship in the medical profession, but not until it had virtually abolished itself. In May, 1893, a system was introduced, or rather reintroduced, of pupilage which in the earlier half of the nineteenth century was a very usual method for students to enter the profession of medicine. There are still among the older generation of medical practitioners many who learnt the elements, and much more than the elements, of their calling by acting as pupil-assistants to general practitioners, and we believe that for the most part those who have had this training would lift up their voices in its support. They would point out, and it must be admitted with great reason, that such a system of pupilage introduced a lad early to the object of his training—to what would later be his life work—namely, to attendance upon the sick. The pupil learnt in addition to much minor practical surgery and practical medicine a knowledge of human nature, and as a result sympathy with the sick became developed at the outset of his career which afterwards tempered his association with patients in the hospital. Lastly, his knowledge of the business side of the medical profession, of prescribing, dispensing, and bookkeeping, acquired when quite young stood him in excellent stead later when embarking upon private practice on his own account. These and similar arguments were listened to with attention by the General Medical Council 13 years ago, and as a result a resolution was passed that the fifth year of the medical curriculum should be devoted to clinical work at recognised hospitals or dispensaries, but of this year six months might be passed "as a pupil to a registered practitioner possessing such opportunities of imparting practical knowledge as shall be satisfactory to the medical authorities." The concession to what was believed to be the wish of the general practitioners was made by the Council, and this resolution has remained in force for 13 years. Its working has now been inquired into by the Education Committee of the Council and it appears that the provision for pupilage has not been taken advantage of at all. Only two educational authorities embodied the provision in their regulations, and inquiries which have been addressed to these bodies showed that practically no students have made use of the permission to apprentice themselves for six months. Whatever examining authority the student looks to for his degrees or diplomas, the educational demands made by the medical curriculum are such that he finds it essential to spend the statutory five years in close touch with a medical school. The reason for this may lie, of course, with the faulty arrangement of the curriculum. It has become manifest that the demands made upon the students at their examinations seriously interfere with their clinical studies, and clinical study of a sort is certainly provided by a system of pupilage. The fifth year of a student's curriculum was, as we know, designed to be devoted to practice—book work

of all sorts at this stage of his career was to be put behind the student's back. This was the intention of the General Medical Council when the curriculum was lengthened from four to five years, the extra year of study being given for the express purpose of clinical work; but as a matter of fact the fifth year has become overloaded with book work intruding upon the practical routine. Reform of some kind is known by everybody to be required, but we may take it for granted that for the future the General Medical Council will not look on pupilage as the method to be adopted; and we fear that some general practitioners who hoped that the system of apprenticeship would become established will regret the definite decision that has been come to.

The second matter of particularly close concern to general practitioners which was debated by the General Medical Council is the necessity or otherwise of increasing the number of Direct Representatives of the medical profession upon the Council. Mr. GEORGE BROWN, seconded by Mr. GEORGE JACKSON, brought forward a motion at the end of the session suggesting that representations should be made to the Privy Council that it was expedient to confer on the registered practitioners resident in England and Wales the power of returning an additional member to the General Medical Council. This motion was moved at the last meeting of the Council by Dr. ROBERT SAUNDBY as an amendment to a similar motion, though of larger and vaguer scope, brought forward by Mr. BROWN, when both motion and amendment were lost. Mr. BROWN'S motion was again lost this session, but by 12 votes to 10 only, showing that the feeling of the Council is nearly equally divided upon the question. We thoroughly commend all attempts to obtain upon the Council representatives of the first-hand views of members of the medical profession engaged in general practice, and we are therefore sorry that the motion has again proved unsuccessful. But though there is no reason whatever why the Council should delay the alteration of its constitution which is actually provided for by Act of Parliament, and though probably next session will see the appointment of a new Direct Representative, we doubt whether the power of the Direct Representatives or their influence for good would be particularly increased by the addition of one to their number. A reconstitution of the Council which would amount to a real reform, and which would tend to give the Council an intimate knowledge of professional life, would be effected by making the representatives of the universities and corporations on the Council the choice of the body of the members generally instead of the choice of the governing authority. The vista of recurring elections thus opened up is not very cheering, but in this way the views of the profession as a whole would obtain expression at the deliberations of the Council.

Arbitrary Treatment of Medical Officers of Health.

INSTANCES of the unfair treatment of medical officers of health which are actually brought prominently to public notice are astonishingly few in relation to the difficult and manifold duties which such officers are called upon to perform. But although few instances are brought to light it is obvious to all those persons who are behind the scenes that the insecurity of tenure, whether as regards whole-time or part-time officers, under which so many of these public servants labour acts as a sort of undercurrent which very materially affects their efficiency and their value as administrators of the public health statutes. The rare cases of actual mal-treatment indicate very clearly how dependent the average medical officer of health must be upon the goodwill of the members of his local authority, and how difficult he must sometimes find it to take action against industries and conditions which certain members of the district council may be interested in maintaining. It takes a strong medical officer of health to insist upon the removal of insanitary property belonging to the chairman of the sanitary committee. Where by independence of action and a rigid performance of his duties the medical officer of health finds a section of his local authority against him his position, when his re-election comes up for consideration, is a critical one and, if perhaps some more adaptable officer is elected in his stead, his chances of securing reinstatement under the present condition of the law are remote.

The now historical case of Dr. F. T. BOND, once more happily medical officer of health of the South-West Gloucestershire combined sanitary district, is a notable exception which indicates in a wholesome manner what is feasible even under the present unsatisfactory condition of affairs. As some of our readers are doubtless aware, Dr. BOND had been for very many years the medical officer of health of the Gloucestershire combined sanitary district, but when the Chipping Sodbury rural district, which formed part of the combination, was materially increased in area and population, the council of that district endeavoured to persuade Dr. BOND to undertake the additional duties involved without any increase of emolument. Upon Dr. BOND refusing to accept the post on these terms the Chipping Sodbury rural district, as the combination was only a voluntary one, left the combination and appointed a local practitioner as its medical officer of health. When this appointment came up for confirmation the Local Government Board very properly refused to sanction it, reminding the local authority that the services of Dr. BOND, an experienced and well-tried officer, were at its disposal at a fair remuneration. But as the Chipping Sodbury district council remained obdurate, notwithstanding the persuasive appeals of two medical inspectors of the central health department, this department ultimately took action under Section 286 of the Public Health Act, 1875, and formed compulsorily a joint district which embraced the recalcitrant authority of Chipping Sodbury. The joint committee has at last been formed and at its first meeting, at which all the constituent authorities, with the exception of Chipping Sodbury, were represented, Dr. BOND had the great satisfaction of being unanimously elected medical officer of health for the new district, or rather of the old district under a new name. It may be added that the abstention of Chipping Sodbury from the meeting makes no difference to the fact that Dr. BOND is now again, after an interval of many months, its medical officer of health.

But satisfactory as this termination of the struggle has been for Dr. BOND and indeed for medical officers of

health throughout the country, it illustrates the necessity for considerable modification of the Public Health Acts if deadlocks of this nature are to be prevented or, if not prevented, more quickly terminated in the future. As Section 286 now stands not only has a "representation" to be made to the Local Government Board before the provisions of the section can be brought into operation, but if opposition arises, as is almost inevitable in such circumstances, a Provisional Order has to be issued which has no legal force until it has been confirmed by Parliament. Moreover, the section provides that no urban district with a population of 25,000 and upwards or (in the case of a borough) having a separate court of quarter sessions may be included in an Order under such section without the consent of the district or borough. All this machinery, it appears to us, might be very materially simplified with advantage; the Local Government Board might be empowered not only to act on its own initiative but also to unite districts, when necessary, without confirmation by Parliament. The Gloucestershire incident also brings into prominence the desirability of all combinations having about them a compulsory element. Under a voluntary system, such as that which obtained in the case here under discussion, one recalcitrant authority may lead to the prolonged inconvenience of all the others and where uncertainty obtains the medical officer of health must always have considerable misgivings as to the permanence of the office which he holds.

Reformatories for the Inebriate.

IN his report for the year 1905 on the Certified Inebriate Reformatories[1] Dr. R. W. BRANTHWAITE has made a very commendable departure from the usual form of blue-book. Instead of confining himself to an arid recital of the official work of the year he has taken a general survey of the operation of the Inebriates Act of 1898, and in a graphic description of the human material which has been sent to the reformatories founded under that Act he has been able to furnish an effectual answer to much of the criticism levelled by ill-informed persons at the results of this experiment in legislation. And that it has been a fairly extensive experiment is evident from the following figures. During 1905 the number of persons admitted to the inebriate reformatories amounted to 443—91 males and 352 females—the number for the preceding year being 418—38 males and 380 females. Of the 443 persons 70 were criminal inebriates sentenced under Section I. of the Act, the remaining 373 being committed as habitual drunkards after four convictions by courts of summary jurisdiction. Of the 352 female inebriates 193 were described as married or widowed, and of these 149 had borne children, the average number of births being 7·4. About 45 per cent. of these children died in infancy or early youth. Up to the end of last year the total number of committals amounted to 1873 and on Dec. 31st, 1905, the number of inebriates under detention was 903.

In Dr. BRANTHWAITE'S general review of the working of the reformatory system since its inception we observe that the point on which he lays most stress is the wide divergence between the aims which the promoters of the Act of 1898 had in view and the direction which this Act has taken in practice. Designed primarily for the reformation of reformable inebriates, and only secondarily for the segregation of the irreformable who might be dangerous to the community, the Act has been applied up to the present in such a manner that the proportion of curable cases reached by it has been practically inappreciable. Analysing the 1873 inebriates admitted to the reformatories up to the end of 1905 Dr. BRANTHWAITE classifies them according to their mental condition as follows: (1) insane (certified and removed to asylums), 48; (2) very defective (imbeciles, degenerates, epileptics), 271; (3) defective in less degree, 857; and (4) of average mental capacity, 697. Thus, in all but 33·7 per cent. of the cases the mental condition was decidedly below the normal and in as many as 17 per cent. it was extremely defective. To expect any improvement from reformatory treatment in cases of this sort would be obviously absurd. The so called habitual drunkards who have been committed to the inebriate reformatories up to the present do not, in fact, constitute a distinct class at all, but form a merely artificial group mostly made up of congenital defectives. Dr. BRANTHWAITE describes their characteristics in terms that might be applied without modification to the inmates of the weak-minded section of a convict prison. Nearly all of them, he says, show evidences of innate inferiority in their cranial conformation, in their defective physical development, and in their insane disorders of conduct. Some are persistently refractory and at times exceedingly violent, whilst others are dull, listless, and more or less passively amenable. All of them show that extreme cerebral susceptibility to the action of alcohol which is notoriously characteristic of the insane and the feeble-minded; very small quantities of liquor, no more than is taken daily without apparent physiological effect by an ordinary individual, are sufficient to cause disorderly and violent behaviour in these unstable beings. Where a family history is obtainable it usually shows in the stock an alcoholic, insane, or epileptic taint. A series of photographs admirably reproduced—a novel feature in publications of this sort and one well worthy of imitation—illustrates very strikingly the facial types in these feeble-minded drunkards. As regards the relatively small number of reformatory inmates who are of average mental capacity Dr. BRANTHWAITE remarks on the frequency with which some form of physical disease, especially cancer and uterine affections in women, would appear to have been an important factor in determining the inebriate habit. He further observes that the majority of cases of this class have been committed under Section I. of the Act as criminal inebriates for some indictable offence caused by drunkenness, such as neglect of children, attempted suicide, or larceny, and he is disposed to attribute their relatively better mental condition and their greater amenability to treatment to their having escaped the deteriorating influences of prison, to which the ordinary police-court inebriate has generally been subjected for many years before being sent to a reformatory. This latter view is, however, open to obvious criticism and it would seem a much more natural explanation to refer the difference between the two classes wholly to their initial

[1] Report of the Inspector under the Inebriates Acts, 1879 to 1900, for the year 1905.

difference in mental organisation and to regard the cerebral superiority of the cases under Section I. as the cause rather than the effect of the absence of a history of repeated imprisonment. The individuals in this class who have been convicted, not of drunkenness, but of some indictable offence more or less due to intemperance, are, in fact, in a totally different category from the regularly drunk and disorderly of the police-courts; they are alcoholics in the proper sense of the word and, it may be added, they are the only true alcoholics who have as yet been brought under the operation of the Act of 1898.

Dr. BRANTHWAITE is emphatic as to the uselessness of prison as a punishment or a deterrent for the inebriate and few people will be disposed to question his conclusion that the spirit of conservatism which leads magistrates to persist in the futile practice of imposing short sentences of imprisonment for drunkenness is utterly indefensible. Dr. BRANTHWAITE, indeed, goes further and holds that such a method is not only useless but that it is positively dangerous in the case of the feeble-minded drunkard and that "the shock of repeated imprisonment, supplemented by the delirium tremens and epileptiform convulsions which often accompany untreated stoppage of liquor, is mainly to blame for increase of congenital brain defect." Coming from an authoritative source, this is a somewhat alarming suggestion, but before fully accepting it we must take due account of the fact that the congenital defective, as is pointed out elsewhere in the report, is extremely intolerant of alcohol and can therefore be but rarely exposed to the risks which are sometimes said to attend the sudden discontinuance of alcoholic liquor in the case of a confirmed sot. Be that, however, as it may, there can be no doubt as to the injurious influence in other ways of the system of intermittent imprisonment in dealing with a class which needs above all continuity of treatment, and Dr. BRANTHWAITE is on firm ground in urging the desirability of earlier committal to the inebriate reformatory as the best way of disposing of these troublesome individuals. In this connexion he notes with approval the course of procedure recently outlined by one of the metropolitan magistrates who suggests that, instead of being sentenced to fine or imprisonment, the convicted drunkard shall be warned of his liability to a long term of detention and that each conviction shall be merely recorded as a step towards qualifying for committal to a reformatory. In this way some chance will at all events be given for testing the value of the Inebriates Act as a means for curing the drunkard and its operation will not be limited, as it has been heretofore, to cases which even the most inveterate optimist could hardly regard as holding out any prospect of improvement. Whether these more favourable conditions will allow the inebriate reformatories to justify their title is a question which time only can answer; but even if it should be found that the treatment of the intemperate in these institutions fails to exercise the curative influence which its zealous advocates sometimes claim for it, its utility as a means of social defence is at all events beyond dispute, and none of Dr. BRANTHWAITE'S conclusions will command more general assent than his statement "that chronic drunken recidivists, who have become mentally defective, irreformable, and hopeless, should be committed to reformatories for full terms and recommitted thereto as often as necessary, so that detention may be as near continuous as the law permits, continuous detention being justifiable on account of helpless condition, danger to the community, and the constant charge such persons are upon public funds." When the matter is looked at from this point of view the question of finance becomes of special importance, and it is very satisfactory to learn that the latest addition to the certified reformatories, that built at East Harling, has been completed at a total cost, including furniture and fittings, of about £100 per bed. A fuller consideration of institutions and working expenses is promised in next year's report, and from Dr. BRANTHWAITE'S wide experience and his exceptional organising capacity his observations on this head will be awaited with much interest, especially in view of the probable introduction into this country of the labour-colony system for dealing with the feeble-minded and vagrant classes.

Annotations.

"Ne quid nimis."

THE PRINCESS OF WALES AND THE LIVERPOOL SCHOOL OF TROPICAL MEDICINE: MOSQUITOES AND YELLOW-FEVER.

THE Prince and Princess of Wales paid a formal visit to Liverpool last week in connexion with the opening of the New Cotton Exchange which took place on Nov. 30th. On the previous day the Princess of Wales paid a visit to the laboratories of the School of Tropical Medicine at the University. In close proximity to the central entrance to the laboratories students of both sexes congregated in large numbers to welcome the Princess. Her Royal Highness was received and conducted into the laboratories by Sir Alfred Jones, K.C.M.G., the chairman of the school. Inside the building Professor Ronald Ross, C.B., the director of the laboratories, assumed the rôle of guide and expositor. Dr. J. W. W. Stephens and Dr. J. L. Todd lent valuable aid in exhibiting by means of the microscope microbic specimens which it is the object of the school to discover and to suppress. Her Royal Highness appeared to take a deep interest in the specimens prepared for her inspection. From the tropical school department the Princess was conducted to the section for cancer research, where, under Mr. J. E. S. Moore and Mr. C. E. Walker, the methods of research work were unfolded to her. Next she was shown over the bio-chemistry laboratory by Professor Benjamin Moore, the dean of the medical faculty. In the room appropriated to parasitical studies a microscopic example of the living larvæ of the carrier of the yellow fever, or tiger mosquito, was shown to her, and afforded her much interest. Mr. R. Newstead, the lecturer on medical entomology, received from the Amazon district a number of eggs transmitted in a dry state between pieces of blotting-paper. Eight weeks were occupied in transit, yet when upon arrival at the laboratory the eggs were placed in tepid water they produced active larvæ in about 12 hours, from which specimens of the mosquito have been successfully reared. The recital of these facts excited no small wonderment in the Royal party. Another specimen which attracted much attention was a kind of tsetse-fly, hitherto a stranger to the laboratories of the school; it hails from Leopoldsville, in the Congo, and brings the total of the known varieties up to nine. Her Royal Highness subsequently made a tour of the

physiological laboratories under the direction of Professor C. S. Sherrington, F.R.S., and was deeply interested in all she saw.

THE WORKMEN'S COMPENSATION BILL AND MEDICAL MEN.

IN our issue of Nov. 10th we published a letter from Mr. Albert Benthall on the Workmen's Compensation Bill (as affecting the general public), from which it appeared that the scope of the present Act will be extended to numbers of employees who have been hitherto unable to claim compensation for accidental personal injury, and also that large amounts of compensation will be in the future payable by many employers who have been in the past unaffected. Members of the medical profession have had experience of the working of the Workmen's Compensation Act of 1900, which extended the benefits of the 1897 Act to grooms and gardeners, and will readily understand that their concern may be very anxious in a piece of legislation by which locum-tenents, medical assistants, and dispensers will be included under the general definition of "workmen." It appears that in the event of a fatal accident happening to any of these "workmen" in the course of their duties their employers will be liable, if their employees have any dependents, to pay £300 as compensation, or, in the event of disablement from accident, £1 per week during the continuance of the disablement, this meaning in some cases an annuity for life, to which the £300, payable in case of death, might be in comparison a small amount. Many medical men will be obliged to insure against the risks entailed upon them by the proposed legislation, so many that if each individual premium is small the aggregate amount of the premiums will be very large—probably it will, or should, amount to £10,000 per annum for workmen's compensation insurance alone. Many medical men have in the past covered the various and increasing risks of modern civilisation by providing for their families and dependents by means of life insurance; they have guarded themselves against loss from disablement by taking out accident and disease policies; they have perhaps protected their houses and furniture by fire and burglary insurance; and have taken out policies covering the risks of owning a motor car. The medical profession thus is perhaps already fairly well insured, but there will probably be many more of its members who, having the advantages of insurance forcibly placed before them by the new Workmen's Compensation Act, will also take out policies covering their further liabilities, while to some, who had previously neglected the precaution, the necessity of the new insurance will prove the stimulus to insurance against the usual chances of life. The moral of this is that the aggregate total amount of the insurance premiums paid by the medical profession within the next few years may amount to a very large sum—to the interest on a million and possibly to more—so that it will be obvious that the question of insurance is becoming a most important one and one demanding the most careful consideration. The stability and methods of the offices with which the insurances are effected should be carefully investigated. The multiplicity of engagements and the preoccupations of busy professional life may leave scant time for consideration of rates of insurance or for comparison of the position and standing of competing insurance offices, but we advise our readers not to become the easy prey of the insurance agent—he is not accused by those who know him of any quixotic adherence to exact verities when extolling his own office, and he has been known to go so far as to promise appointments, without the least authority for so doing, to medical men who will take out a policy with him. A striking example of this kind of occurrence was published in THE LANCET of Nov. 24th, and similar examples have on several occasions been brought to our notice. (See p. 1637 of this issue.) We have had placed before us the successful results of a scheme for combination in insurance whereby large savings have been effected by a group of persons of the same calling and rank in life, while important additions have also been made to funds in which the policy holders were interested. If, as seems likely, medical men are in the future to become the payers of increased annual sums in premiums we think that they might well take advantage of some similar cooperative scheme. We understand that such a scheme may be placed before the medical profession at an early date.

THE DARK MORNING.

THE dark morning has its compensations. It is unpleasant enough to have to rise from bed before the day dawns and to perform our toilet by the aid of artificial light, but after all the night's rest in the winter is probably more complete and more undisturbed than that of the summer. The sun's rays are full of activities and they exert a stimulus upon both the mental and bodily energies. In the short days of winter we miss these energising effects and the inducement to rise early is not so strong in the winter as in the summer. There is no light to rouse us from the lethargic feeling engendered by a night's rest, to set the bodily and mental energies in motion and so the disposition of most of us when the morning is dark is to leave our beds most grudgingly. It is a perfectly natural outcome of the absence in the early morning of the life-stirring qualities of the sun's rays. It is a common experience that sleep is of a much heavier nature when the room is kept darkened, and, on the other hand, the early advent of light will quickly awaken many sleepers. There are those who can hardly resist rising early when sunlight greets them, while there are others who can resist with little effort any kind of inducement to rise early at all. The lot of the latter may be a tendency to a process of etiolation, a drooping of both mental and bodily energies, a drowsy and unhealthy condition akin to the whiteness of the plant which is excluded from the life-giving rays of the sun. Sleep is of course a physiological and physical necessity which can, however, be over-indulged in with deteriorating effects. There is, however, some excuse for a longer indulgence in the winter, for the short duration of sunlight would seem to enjoin the whole animal world to prolong its sleep as a kind of compensation for the loss of energy-giving radiations entailed by the correspondingly short period of solar influence.

PLAGUE AND SMALL-POX IN MAURITIUS.

ACCORDING to the Government Blue-book for 1905 just received at the Colonial Office the epidemic of plague in that year in Mauritius was the lowest as regards the number of cases recorded since the introduction of the disease in 1899, as will be gathered from the following table:—

Year.	Cases.	Deaths.	Death-rate per cent.
1899	1416	1117	78·9
1900	796	593	74·5
1901	1093	805	73·6
1902	506	386	76·3
1903	1395	1035	74·2
1904	568	449	79·0
1905	308	251	81·5

The rate of mortality, however, 81·5 per cent., has been the highest on record. The campaign undertaken by the Health Department against rodents, alluded to in the last report, has been carried on throughout 1905 with unabated vigour. Rats to the number of 64,407 were destroyed in Port Louis alone, while the number of these animals killed or poisoned in the country districts amounted to 20,362. The preventive

disinfection of premises where cases of plague had occurred in previous years was carried out on a large scale, a measure which so far seems to have been attended with most beneficial results. During the year the colony was visited by an epidemic of small-pox, which, fortunately, was rapidly got under. The existence of the disease was first established on Feb. 25th, but the case detected on that date was not the initial one in the epidemic as was subsequently ascertained. 137 cases were registered, with 16 deaths, or a case mortality of 11·68 per cent. The epidemic reached its climax in April when 43 cases occurred but it gradually subsided, coming to an end in July, during which month the last cases were registered. In spite of a very minute inquiry into the matter no definite information could be obtained regarding the origin of the epidemic. The spread of the disease was effectually checked by the immediate isolation of the patients and by the compulsory vaccination and segregation of the "contacts," and vaccination of persons inhabiting the contaminated areas; steps were also taken to further the same object on a large scale by encouraging voluntary vaccination both in Port Louis and the country districts.

THE EFFECT OF SALICYLIC ACID AND SALICYLATES UPON DIGESTION AND HEALTH.

Dr. H. W. Wiley, chief of the Bureau of Chemistry, United States Department of Agriculture, has followed up his experimental study of the effect of boric acid and borax[1] upon the human body with an equally thorough investigation of the action of salicylic acid and the salicylates.[2] The experiments were conducted on 12 healthy young men who voluntarily pledged themselves to abide by certain rules guiding their conduct during the period of observation. They agreed to indulge in no unusual exercise or study, to eat only the food that was given to them, to collect and deliver for analysis their excreta, and to observe regular hours of sleep and work. During the first ten days of the experiment the quantity of food necessary to satisfy the ordinary demands of hunger was ascertained. It was found that on an average a healthy young man consumes each day an amount of dry food equivalent to 1 per cent. of his weight; including the moisture present in the food and drink the total quantity of food consumed daily by each young man was 4·2 per cent. of his weight. The diet was varied and free from preservatives. During the next 30 days salicylic acid was given in doses gradually increasing from three grains to 30 grains in the form of tablets and capsules. The experiment closed with a period of ten days during which no preservatives were given. It was found that the administration of salicylic acid at first produced a stimulating effect upon the processes of solution and absorption of the food materials from the alimentary canal, a smaller proportion of the food products was found in the fæces, and in most cases the appetite was increased. But a loss in weight was observed in almost all cases, indicating that the apparent stimulation of the digestive process is not attended with corresponding benefit in the building up of the tissues of the body. A study of the analytical data shows that the katabolic activities are increased more strongly than the anabolic activities. Dr. Wiley concludes from a general study of the medical and chemical data that, taken as a whole, the effects of the administration of salicylic acid are unfavourable, though there are individual cases which, taken alone, would lead to a contrary opinion. The results obtained are of great medical interest. The number of red corpuscles in the blood was increased and a slightly greater volume of urine was excreted but no notable effect was produced upon the occurrence of albumin in the urine, though in a special study made subsequently of four men a marked tendency was shown to an increase in the occurrence of albumin. A large part of the salicylic acid was excreted unchanged by the urine; other portions underwent changes, the products of which were also excreted to a large extent by the kidneys, the work of which was thereby increased. A general effect of the salicylic acid is to increase slightly the quantity of metabolised nitrogen and to decrease the quantity of unmetabolised nitrogen excreted by the kidneys, indicating that the preservative tends slightly to increase the absorption of the nitrogen ingested. There is a well-defined tendency during the administration of salicylic acid to increase the store of phosphoric acid in the body. Dr. Wiley points out that there has been a consensus of opinion among scientific men, including the medical profession, that salicylic acid and its compounds are very harmful substances when used as preservatives of food. But this opinion does not seem to him fully to be justified by his experiments which tend to show that salicylic acid, though a harmful substance, is less virulent than has been supposed. From an unbiased study of all the data obtained he concludes that salicylic acid is a substance which, when added to foods, even in small quantities, exerts a depressing and harmful effect upon the digestion and health and upon the general metabolic activities of the body. Further, there appears to be no necessity for its use, as food can be preserved without its aid and the use of a preservative tends to make a manufacturer less careful in the selection, cleansing, and preservation of foods.

[1] See THE LANCET, July 1st, 1905, p. 38.
[2] Circular No. 31, Bureau of Chemistry, United States Department of Agriculture.

RECENT PROSECUTIONS OF ABORTIONISTS.

THE assizes which are now nearly over have afforded a number of examples of the practices adopted by the abortionist, and it is to be hoped that the large proportion of convictions recorded, followed by severe sentences, may have a deterrent effect upon persons of this class. Women also who otherwise might become their victims will have been warned by seeing members of their own sex compelled to come forward as witnesses and to acknowledge their shame. In other instances when the trial is consequent upon the woman's death the warning should be even more effectual. A case of an unusual character was described by counsel before Mr. Justice Lawrance at the Sussex assizes after a woman named Lowry, and known as Nurse Ethel, had pleaded guilty. She had acted to some extent under the compulsion of her husband, and certainly with his connivance, for he made up the drugs which she used for the purpose of procuring abortion in the six cases with which she was charged. He also ill treated her, and in the end, after they had quarrelled, wrote a letter giving particulars of her offences to the police and committed suicide. She was sentenced to 12 months' hard labour. In another case tried at the Hampshire assizes, Percy Bennett, who kept "Bennett's Drug Stores" at Landport, was sentenced to three years' penal servitude. He had performed an illegal operation in addition to administering drugs. It was stated in this case that the woman was attracted by the labels on certain bottles in the window of the prisoner's shop, which presumably were as plain in their meaning to her as the advertisements which appear in certain newspapers are to everyone but their editors and proprietors. In a case at Gloucester the prisoner, who pleaded guilty to having procured the drugs taken by a young woman whom he had seduced, occupied a good position at a lending library and had served 21 years in the army. He was sentenced to penal servitude for four years. In this instance and in the other two referred to the women did not die, and it is perhaps to some extent a matter for congratulation to the police that they should have been able

to bring the perpetrators of dangerous crimes to book without being compelled to take proceedings by the occurrence of death and by the inquiries set on foot by the coroner. In the Sussex case, however, it was, as has been stated, the act of the husband who supplied them with information rather than their own vigilance which was responsible for the conviction of the wife, and the bottles which attracted the attention of the woman at Landport had been as liable to inspection by the police as by her. In the case at Gloucester the woman had tried to commit suicide, so that to her also attention was directed in a somewhat marked manner.

PRESERVED IMPORTED FOODS IN MANCHESTER.

WE have received a copy of a report on "Preserved Imported Foods" which has recently been presented to the chairman and members of the central markets and abattoirs sub-committee of the city of Manchester. The report is signed by Professor S. Delépine and printed with it are some observations made by the chief veterinary inspector of the Manchester corporation markets department, Mr. A. Holburn, M.R.C.V.S. The samples procured and submitted to examination included tins of compressed cooked corned beef, a keg of cooked tripe in preservative fluid, a pint of preservative fluid taken from a large cask of uncooked tripe, a piece of the tripe after being cooked, and a box of frozen minced veal. The report is regarded as calculated, in the words of the veterinary inspector, "to relieve us at once of any cause of alarm." The results of the examination of the samples of American canned meat were "very satisfactory." The frozen minced veal did not contain preservatives but it was wrapped in a cloth which contained borax. The examination of the tripe was not satisfactory as although it appeared to be in good condition the brine in which it was packed proved to contain many micro-organisms "but they were harmless." The brine contained salt and boric acid. These results are interesting but the number of samples examined is hardly sufficient to enable a general conclusion to be made.

THE WEATHER OF THE PAST SUMMER.

AT a meeting of the Royal Meteorological Society held on Nov. 21st Mr. W. Marriott read a paper on the Abnormal Weather of the Past Summer and Some of its Effects. He said that the principal features of the weather over the greater part of England—especially the south-east—were the high state of the barometer throughout the whole of the period, except a portion of August; the high temperature in July, August, and September; the great amount of sunshine; and the deficiency of rainfall. Over the south-eastern portion of England more than 900 hours of bright sunshine were recorded during the four months June to September. This was more than 200 hours above the average over the Thames basin and on the coasts of Lancashire and North Wales. An exceptional heat wave occurred between August 30th and Sept. 3rd. The temperature rose above 90° F. over a large part of England on four consecutive days—namely, August 31st to Sept. 3rd. Mr. Marriott has not been able to find any previous record of readings over 90° for a similar period. The air was very clear and brilliant sunshine prevailed over nearly the whole of the country. Another remarkable feature connected with this heat wave was the great dryness of the air, for on Sept. 1st and 2nd differences of 25° were observed between the readings of the dry and wet bulb thermometers, and relative humidities below 30 per cent. were recorded at many inland places. Owing to the great heat vegetable matter became very inflammable and consequently there were more stack fires than usual, and extensive stretches of heather and gorse were also set on fire. He added that with the advent of the hot weather the death-rate rose considerably owing almost entirely to an increase in the deaths of infants under one year of age. This was known to be due to the prevalence of infantile epidemic diarrhœa, which sets in when the mean maximum temperature for the week rises above 72°. Attention was called to the effect which the high temperature had in turning milk sour and in rendering it unfit for drinking purposes, unless it had been first pasteurised or sterilised. Not only was ordinary milk a source of danger to infants during the hot weather, but the great use which was now made of tinned foods also tended to produce ptomaine poisoning and to cause diarrhœa. Owing to the drought food for cattle was very deficient and consequently there was a falling off in the milk-supply of as much as 30 per cent.

A COMPARISON OF THE PROPERTIES OF NOVOCAINE AND ALYPINE WITH THOSE OF COCAINE.

IN the *Répertoire de Pharmacie* of Sept. 10th and Oct. 10th M. Paul Lemaire has given a useful comparison of the properties of novocaine and alypine with those of cocaine. These substitutes for cocaine are considered to possess similar physiological properties to cocaine and it is claimed for them that they possess the additional advantage of withstanding sterilisation at the boiling point or at 110° C. in an autoclave without impairment of their anæsthetic properties. Aqueous solutions of both novocaine and alypine have a neutral reaction and they are both precipitated by the usual alkaloidal reagents and by ammonia, caustic soda, lead subacetate, silver nitrate, and mercurous nitrate. Alypine, like cocaine hydrochloride and stovaine, is precipitated by sodium carbonate and by borax, but novocaine is compatible with these substances and with potassium iodide. Hence it can be prescribed in the form of eye drops containing novocaine 0·1 gramme, borax 0·2 gramme, and distilled water 10 grammes; or as a subconjunctival injection containing novocaine 0·25 gramme, potassium iodide 0·5 gramme, and distilled water sufficient to make 10 cubic centimetres. If a solution of novocaine acquires a yellow colour it should be rejected, as it may then cause irritation. From a chemical point of view novocaine and alypine are closely related; the former is para-amino-benzoyl-diethyl-amino-ethanol, while alypine is the hydrochloride of the corresponding tetra-methyl compound.

THE NATIONAL LEAGUE FOR PHYSICAL EDUCATION AND IMPROVEMENT.

THIS League, which was incorporated in 1905, has just issued its first annual report, which is to be presented to the members at the first annual meeting, which will be held at Caxton Hall, Westminster, to-day (Friday, Dec. 7th), at 4 P.M. The report shows that a good deal of work has been done which will doubtless bring forth fruit in the future. A number of publications dealing with the work and objects of the League have been issued, sundry societies doing similar work have offered to coöperate with the League, and, better than all, a clause embodied in the Education Bill providing for the medical inspection of school children, a provision the necessity of which we have frequently urged, has been agreed to by both Houses of Parliament. The League is making arrangements for the supply of pure milk to children and by some of the branches health visitors are appointed who instruct mothers in the feeding and management of their infants. The objects as specified in the report are to save the babies, to train the children, to influence the youths and maidens, to instruct

the parents, and to lessen the drink evil. In its pursuit of these most praiseworthy objects the League has our cordial sympathy and hearty good wishes.

COFFEE WITHOUT CAFFEINE.

IN THE LANCET of Oct. 27th, p. 1159, we mentioned the remarkable circumstance that the coffee beans yielded by certain species of *coffea* had been found to contain no caffeine. The evidence as to the facts is quite complete, for full chemical analyses of the beans and descriptive particulars of the plants have been published in 1901 and 1905 by M. Gabriel Bertrand.[1] The coffee beans examined by him were obtained from four species of *coffea* all growing wild, three of them in Madagascar and one in Great Comoro Island, which is situated in the Mozambique Channel 350 miles north-west of Madagascar. Both in the raw state and also when roasted the beans had the appearance of ordinary coffee of variable or indifferent quality. The common coffee plant is *coffea Arabica*, and ordinary coffee beans contain from 10 to 15 grammes of caffeine per kilogramme. M. Bertrand has, however, discovered that the produce of the *coffea Mauretiana*, cultivated in the part of Guinea which is French territory, contains no more than 0·7 gramme of caffeine per kilogramme. He therefore argues that the proportion of caffeine in the bean as well as the fact of its complete absence in certain species ought to be included amorg the botanical characteristics of the coffee plant. In his two articles on the subject published in the *Comptes Rendus* M. Bertrand makes no references either to the actual date of his important discovery or to any analyses made by other chemists, but on the paragraph in THE LANCET coming to the knowledge of Herr Heinrich Trillich, a chemist in Munich, he wrote to us inclosing a reprint of an article which appeared in vol. iv. of the *Zeitschrift für Öffentliche Chemie*. In this communication, which is headed "Ueber Kaffee mit thränenförmigen Bohnen" (On Coffee with Tear-shaped Beans), Herr Trillich states that in 1892, 1894, and 1896 he received from the island of Bourbon samples of the so-called "café marron" which grows wild there and is used by the natives but is not exported. He says that the beans are decidedly of the nature of coffee (*entschieden Kaffeebohnen*) but of a somewhat globular form (tear-shaped). When roasted they behave like ordinary coffee, give off the aroma of coffee, and yield an infusion strongly resembling coffee but of a disagreeable harsh taste. He found that this café marron contained no caffeine. He suggests that it may be the produce of wild plants of *coffea Bourbonica*. The island of Bourbon, more commonly called Réunion, is a French possession in the Indian Ocean about 480 miles east of Madagascar.

INFANT MORTALITY IN MARYLEBONE.

FOLLOWING the precedent set by Mr. Alderman Broadbent, during his year of office as Mayor of Huddersfield, in offering a present of £1 to the parents of each child who survived the first year of life, Sir Thomas Brooke-Hitching, the Mayor of Marylebone, has made a similar offer to the residents of his borough who are on the Burgess registry and whose weekly earnings do not exceed £2. The Huddersfield scheme has worked remarkably well in reducing the infant mortality in the northern centre and there is no reason to suppose that in Marylebone the same incentive to care in the rearing of infants will give less excellent results, provided that the same care be taken in the house-to-house visiting and in the dissemination of the requisite knowledge. In Huddersfield Mr. Alderman Broadbent organised his own staff of visitors but in Marylebone there is already at hand a working organisation which is fully competent to carry out such a scheme on a large scale, for the Borough of St. Marylebone Health Society, with the medical officer of health as chairman, is pursuing a very active campaign in the district with the same object in view. This comparatively young society has already done excellent work and by the dissemination of literature bearing on this subject and by the personal visits of its members it has introduced to many a home a useful knowledge of the steps which are necessary for rearing strong and healthy children. The members of the society have been carefully selected and carefully trained by a series of lectures and demonstrations and a series of "talks with mothers" are now in progress in various selected centres; one baby show has already been held in the district and others are in contemplation and it is hoped that these shows, which are held under the auspices of the society, will serve as useful object lessons in dispelling from the minds of the mothers the many prejudices and wrongly conceived notions which are held with regard to the desirable points and features of infant development. A valuable element in the Marylebone campaign is the institution at the St. Marylebone General Dispensary of a scheme of "infant consultations"; somewhat similar enterprises have produced excellent results in Paris and in other large centres of population in France, but so far as we know this is the first of its kind to be established in England. At these consultations the infants are from time to time weighed and thoroughly examined, while full notes of their condition are recorded. The mothers are advised and instructed in the best methods of the management of infants, and prizes are offered at the end of each year to those mothers who have been most regular in their attendances and who have followed out the instructions given with the greatest care and attention. The lady visitors of the society attend at the consultations and assist in the weighing and the taking of notes, and in so doing they acquire experience which serves them in good stead in their subsequent house-to-house visiting. In Marylebone the infant mortality has of recent years been conspicuously low for a metropolitan district, so that with the mayor's generous offer and the active operation of the Health Society we shall look for some really remarkable reduction in the annual death-rate among babies in this district.

OUR CONCEPTION OF HEALTH AND DISEASE.

THE difficulty of constructing a definition of health or of its contrary, disease, has often forcibly presented itself to lecturers on medicine and to writers of text-books of pathology. Probably it is true that these terms represent ultimate ideas, like pleasure and pain, and admit of no definition—a process which usually consists in referring a concept to a wider and better-known class in which it is included. Still, attempts have to be made to evade the difficulty and to arrive at a working description at all events. The problem has recently been faced once more, this time by Professor Sheridan Delépine; and his attempt is of the greater interest in that it is embodied in an address which was written some 20 years ago and was only recently published with a few alterations needed to bring it up to date. He proceeds on the most hopeful line—namely, the application of the theory of evolution to matters medical. At the basis of this theory lies the conception of life as the interaction between a living organism and its environment, and from this it follows that all disease, whether apparently hereditary or visibly acquired, is due to the influence of outside factors acting either on the individual affected or on his ancestors. Health, then, consists in a sort

[1] Comptes Rendus de l'Académie des Sciences, Paris, 1901, vol. cxxxii., p. 162; 1905, vol. cxli., p. 209; Bulletin de la Société Chimique, 1901, third series, vol. xxv., p. 379.

of equilibrium between external and internal forces; it is an "*average state* characterised by *duration of life, power of reproduction, capacity for work (and, in higher organisms, absence of pain)* such as we find harmoniously combined in the most perfect individuals living during the period under investigation. Individuals falling below this standard may, for theoretical purposes, be considered as not perfectly healthy—i.e., more or less diseased. Those above this standard in some particular, without being below in others, indicate the possibility of evolution towards a more perfect (or less imperfect) type." The standard of health has thus an upward tendency as time goes on. Professor Delépine holds that "the prevention of disease ..... tends to promote a progressive evolution by reducing the number of individuals more or less incapacitated by disease." This is a more comforting doctrine than that of those who point to disease as itself constituting an important instrument in the progress of the race by its constant weeding out of those less fit for the struggle for existence; for on this last assumption it is impossible not to feel qualms as to the ultimate value of all medical skill, preventive or curative.

THE SYSTEMATIC BACTERIOLOGICAL EXAMINATION OF MILK FROM RURAL DISTRICTS.

AN advertisement will be found in our columns this week stating that a joint committee of the county councils of the East and West Ridings of Yorkshire and the county boroughs of Bradford, Hull, Leeds, Rotherham, and Sheffield, is desirous of obtaining the services of a bacteriologist to carry out an investigation as to the conditions of the milk-supply of the district. The investigation is to be continued for 12 months and the remuneration offered is £250 for that period, while any out-of-pocket expenses will be paid and all necessary apparatus will be provided by the committee. Applications, with testimonials, should be sent on or before Jan. 10th, 1907, to Mr. John Bickersteth, clerk to the committee, at the County Hall, Beverley. We are able, by the courtesy of Dr. J. Mitchell Wilson, the medical officer of health of the East Riding of Yorkshire, to give to our readers further information as to the nature of the inquiry for which a bacteriologist is wanted. The populations of all our urban and rural districts are equally interested in the results. The inquiry is to be carried out with the coöperation of the medical officers of health of five of the county boroughs in Yorkshire with the county medical officers of health of the East and West Ridings and will have for its object to discover by systematic watching and research the various points at which the milk-supply becomes contaminated in its passage from the cow to the consumer—a sort of life-history of the milk. Samples will have to be examined when drawn in the cowshed or the pasture field, or delivery at the home railway station, at the station of consignment, at the milk shop, and at the consumer's house, and it is hoped that a year's systematic investigation on these lines will furnish a guide for sanitary procedure to all persons concerned in the distribution of milk.

THE INSPECTION OF FOOD BY RIPARIAN SANITARY AUTHORITIES.

WE have received a copy of a report by the medical officer of the London County Council, Sir Shirley F. Murphy, presenting a report by Dr. W. H. Hamer on the inspection of food by riparian sanitary authorities. Dr. Hamer points out that river inspection needs to be considered in relation to the inspection which should be practised at other portals of entry of foodstuffs into London, as otherwise the devotion of special attention to one avenue of approach merely leads to the diversion of traffic in unsound foods to other avenues less subject to scrutiny. One of the most important questions, in fact, arising in connexion with attempting to perfect the system of river inspection is the need of coördination of the methods of supervision exercised at the various points of entry, whether by river, rail, or road, and of the adoption of a general scheme of inspection of foodstuffs brought into London. It is pointed out that in the case of meat the public health could in a measure be safeguarded, so far as relates to diseased conditions visible at the time of slaughter, by insuring that proper inspection was carried out at that time, whether in foreign countries, at the various ports of this country, or in the country itself. In addition, however, to such original inspection, it is essential that the condition of the meat as to soundness at the time it enters London should be made subject to investigation. Inspection at the frontier of the county is equally desirable in the case of fish and tinned and preserved foods which have not been submitted to inspection prior to being brought into London. Then there is the question of food which has once been "surrendered" or "condemned" as unfit for human food but which may find its way back into the market either in its original form or more or less completely disguised. This unsound food is purchased from owners by contractors who "make what they can out of it," and sanitary authorities are content to employ contractors and to hand over to them, in some instances after a preliminary process of "denaturing," meat judged to be unfit for consumption. The custom of imposing a charge for the removal and destruction of such meat tends, too, to discourage the voluntary surrender by owners of material which should be destroyed. It is suggested that an important means of safeguarding the public would be afforded if the ownership of foodstuffs originally intended for human consumption but which have become unsound could be vested in the sanitary authority which would effect the necessary removal and destruction without the charge which is at present made.

THE annual conversazione of the British Electrotherapeutic Society and exhibition of new apparatus will be held in the small Queen's Hall, Langham-place, W., on Friday, Dec. 14th. The exhibition will be open from noon and many new forms of apparatus will be on view and shown under working conditions. Members of the society may bring their medical friends and all medical men will be welcomed. Members can obtain all information and extra invitation cards on application to the honorary secretaries, Dr. W. Kenneth Wills, 19, Whiteladies-road, Clifton, Bristol, and Dr. E. Reginald Morton, 22, Queen Anne-street, Cavendish-square, London, W.

A DISCUSSION will take place on Wednesday, Dec. 12th, at 8 P.M., at the Royal Sanitary Institute, upon the Advantages and Disadvantages of Heating Buildings by Gas Stoves of various Types. The discussion will be introduced by Mr. S. Rideal, D.Sc. Lond.

THE Pathological Society of London agreed at its meeting held on Dec. 4th to join the Union of Medical Societies of London. The society nominated Dr. A. E. Garrod as its representative to serve on the new committee.

A TELEGRAM from the Governor of the Mauritius received at the Colonial Office on Nov. 30th states that for the week ending Nov. 29th there were 24 cases of plague and 17 deaths from the disease.

UNIVERSITY OF LIVERPOOL: THE MITCHELL BANKS MEMORIAL LECTURE.—The Mitchell Banks memorial lecture is to be delivered on Dec. 14th at the University by Sir William Macewen, the professor of surgery in the University of Glasgow.

METROPOLITAN HOSPITAL SUNDAY FUND.

A MEETING of the council of the Metropolitan Hospital Sunday Fund was held at the Mansion House on Nov. 29th under the presidency of the Lord Mayor. Among those present were Lord Stamford, Sir William S. Church, Sir Frederick Treves, Sir Savile Crossley, Sir George Bruce, Sir E. Durning-Lawrence, Archdeacon Sinclair, the Hon. Sydney Holland, Sir Henry Burdett, Sir E. Tritton, Sir John C. Bell, Sir J. T. Ritchie, Canon Fleming, the Rev. Archibald Fleming, the Rev. E. H. Pearce, Dr. J. G. Glover, and Mr. Wakley. The report of the council for the year ended Oct. 31st last, which was presented, stated that the council recorded with the deepest regret the death of Sir Sydney H. Waterlow, vice-president, who had been connected with the Fund since its creation in 1872 and was chairman of its distribution committee for 33 years. In its first year, when Sir Sydney Waterlow was Lord Mayor of London, the receipts were £27,700; this year a sum of over £63,000 had been collected, and it was to his untiring exertions that the success of the Fund was largely due. The lamented death of Mr. George Herring was a serious loss to the Fund, and especially to the distribution committee, on account of his active interest as one of its members. By his munificent bequest, however, the Fund would not lose the amount which he had so generously given for the last eight years. This year's collection, the thirty-fourth, had resulted, under the presidency of Sir Walter Vaughan Morgan, the Lord Mayor and treasurer, in a total of £63,074. The collections in the various places of worship resulted in an amount of £44,647, being £4307 less than the amount contributed in 1905. The Metropolitan Cathedral of St. Paul's headed the list with £4812. The late Mr. George Herring again added one-fourth to the amount collected in places of worship and generously extended his gift to a special collection in the City. His donation this year had been £11,000. Mr. William Herring and Mr. Charles Morrison gave donations of £1000 each; Sir Savile Crossley had again divided his contribution of £1000 between this fund and the King's fund, and "Delta" sent his twenty-eighth donation of £200. A sum of £3000 had been received from the executors of the late Mr. Herbert Lloyd on account of the legacy of £10,000 bequeathed by him to the Fund in 1901. The council recorded with satisfaction that the action begun in December last by the Hon. Stephen Coleridge against the Lord Mayor and the council had been abandoned, the cost falling on the plaintiff.

Mr. SYDNEY HOLLAND, one of the executors of the late Mr. Herring, said that Mr. Herring's estates amounted to about £1,370,000 and that after certain legacies had been paid a sum of about £600,000 would come to the Sunday Fund. There was a difficulty about one matter—namely, the £60,000 which was to be given to the Salvation Army if their "back to the land" scheme were successful. If that scheme were not successful the money would come to the Sunday Fund. He did not know who were to be the judges in the matter. It would not be an easy matter to decide what would constitute success but he thought that if the executors decided that the scheme was successful and handed over the balance of the money the Fund would raise no objection. There was a bust which Mr. Herring had left of himself in his house in Hamilton-place and the Prince of Wales, as President of the King Edward's Hospital Fund, had consented to allow the Sunday Fund to have it in order that it might be placed in the Mansion House, to which arrangement the Lord Mayor had agreed. The King had given permission for the letter which His Majesty wrote to Mr. Herring, thanking him for his work, to be engraved on the pedestal of the bust. As, however, the bust was in plaster the executors proposed to have a copy made in marble.

The following motion, proposed by Lord STAMFORD and seconded by Sir W. S. CHURCH, was adopted:—

The council has heard with great regret of the death of its esteemed colleague, Mr. George Herring, who was a regular attendant at the meetings of the distribution committee, and whose munificent gifts, extended over many years, assisted in largely increasing the amount of the annual collections.

On the motion of Canon FLEMING, seconded by Sir J. T. RITCHIE, it was resolved:—

That this council desire to offer their sincere condolence with Lady Waterlow on the death of Sir Sydney Waterlow, Bart., who since the inauguration of the Hospital Sunday Fund had been one of its most prominent workers and warmest friends.

On the motion of Archdeacon SINCLAIR, seconded by the Rev. W. H HARWOOD, the report of the council was adopted.

June 9th, 1907, was fixed for next Hospital Sunday and a vote of thanks to the Lord Mayor terminated the proceedings.

CO-EDUCATION OF THE SEXES.

THERE is a phase of the education question which is being pushed forward somewhat vigorously in certain quarters and which although of great medical interest has as yet received little or no notice in the scientific journals. Co-education of the sexes is the subject in question. It is extensively adopted in the United States, where it was introduced at first for reasons of economy. In a sparsely populated new country it was not found feasible to provide separate schools or colleges for the two sexes, and thus boys and girls received their education together. The system found great favour in most parts of the United States, and especially in the Western States, where co-education continues to be almost universal, although the conditions which in the first instance rendered it necessary have now lost much of their force. So pleased were Americans with the system that in the early "seventies" most of the universities and larger colleges were thrown open to female students. During the past few years, however, many opponents of co-education have arisen and much hostile criticism has been launched against it.

One of the arguments used in support of mixed schools is that the society of girls tends to make boys less rough in their manners and less self-conscious and it is also asserted that the presence of girls in a class acts as a stimulus to the boys, because the latter do not like to be surpassed by girls. The opponents of the system in America say that such may be the case, but that, on the other hand, the constant society of girls has the tendency to make boys effeminate, and that though the mixing of the sexes during school and college life may produce emulation, the strain of competition and the sedentary life led by earnest girl-workers, often at a critical period of life, have, as a rule, very disastrous after-effects. The mental powers of the growing girl are forced and cultivated to the injury of the other functions of the body. It has been pointed out, also, that co-education destroys many of the distinctively feminine characteristics. The chief objection brought against co-education is that, however well it may answer the purpose during some periods of school and college life, at any rate it should be abandoned during the age of puberty. Up to 12 years of age, and after the age of 17 or 18 years, on the grounds of health at least, the system offers few objections, but the physiological differences of the sexes render it in many cases a dangerous experiment for maturing girls.

It may be freely granted that woman should have every facility given her for obtaining knowledge in order that, if necessary, she may be able to make her own way in the world. But that she should over-exert her mental faculties at the expense of her bodily health is not only bad for herself but bad for the future of the race. From a medical point of view the question of co-education requires much further consideration before it can be recommended as the most fitting manner of equipping the youth of this country for the battle of life.

An important experiment in this direction is about to be made by the establishment of a new public school for boys and girls, which will be opened in January next, at Harpenden, by the Co-educational Public Schools Trust. In support of the movement generally, and of the claims of this school in particular, a meeting was held on Nov. 28th in the small Queen's Hall, Langham-place, London, W. The Rev. Dr. H. B. GRAY, headmaster of Bradfield College, presided, and in opening the proceedings said that while believing thoroughly in the advantages of English public school education, he allowed that there were some drawbacks associated with it. The assembling together of boys at the most critical period of their lives and their separation from the refining influences of mother and sister could not be altogether free from objection. In America, when on the Mosely Commission, he became convinced that the co-education system adopted there was the best.

The Rev. CECIL GRANT, the headmaster-elect of St. George's

School, Harpenden, delivered an address in which he said that co-education presented no practical difficulties. The "moral" difficulty, he contended, prevailed in consequence of the unnatural monastic conditions. Experience proved that the evil was as totally absent from boarding schools for boys and girls as from a well-ordered home.

Among the other speakers were Miss ALICE WOODS (Principal of the Maria Grey Training College), Mr. C. E. RICH (Headmaster of West Heath School), and Dr. C. E. GODDARD.

MEDICINE AND THE LAW.

The Women's Hospital, Birmingham, and Mrs. Unite's Legacy.

AFTER Mrs. Unite's death in 1905 it was found that by her will made in 1902 she had given to the Women's Hospital, Birmingham, in which she was interested, the sum of £20,000 "to the rebuilding and equipment to the satisfaction and under the direction of her executors." Unfortunately, the wording of the bequest caused some little difficulty, for the hospital itself had been rebuilt before Mrs. Unite died and whilst the committee of the hospital was of the opinion that the erection of a pathological department came within the limits of the bequest the executors did not agree and so the matter passed into the law courts. The residuary legatees claimed, first, that equipment did not include the proposed departments; and secondly, that if the purpose of the bequest failed the fund fell into the general residue of the estate. Mr. Justice Kekewich has now decided that the money must be devoted as nearly as possible to the charity and the only question still to be determined is whether the money is to go into revenue or not. The matter is to be settled between the Attorney-General and the hospital authorities.

Hereditary Insanity and Marriage.

In the Probate, Divorce, and Admiralty Division of the High Court on Nov. 20th, 21st, and 22nd, before Mr. Justice Bargrave Deane and a common jury, Mr. Harry Lowder King, of Brighton, sought a dissolution of his marriage on the ground of his wife's misconduct with Joseph Skuse, leader and subconductor of the orchestra at Drury Lane Theatre. This charge was not denied, but the wife alleged that her husband had been guilty of cruelty, of conduct conducing to her misconduct, and of desertion for two years and upwards without reasonable cause. These charges were denied by the petitioner. The parties were married in 1890. Three children were born, the last in 1893. After each confinement the wife became ill; the husband said that he thought it was puerperal fever at that time, but in 1895 her condition was such that she was detained in Claybury Asylum for a few weeks. While there the husband said he learnt that she had a hereditary taint of insanity, one of her uncles being an imbecile. After her recovery the husband agreed to pay a weekly allowance to his wife and refused to cohabit with her owing to the fear of further outbreaks of insanity. This course, he stated, he took on the advice of Dr. Robert Jones, but Mrs. King asserted that on her departure from Claybury the same gentleman had assured her of a complete and permanent restoration to health, but added, "he may have said so to cheer me up." The wife insisted that she had never agreed to a permanent separation and affirmed she had acquainted her husband with the uncle's health prior to their marriage. In summing up his lordship stated that assuming that there was no agreement for a permanent separation between husband and wife he was doubtful as to whether a man was legally entitled to live apart from his wife owing to a hereditary taint of insanity. For himself, he was of opinion that the law did not allow it. The jury acquitted the husband on the charges of cruelty and of conduct conducing to his wife's misconduct but found that he had deserted her without reasonable cause. They assessed the damages as against the co-respondent at £50. His lordship accordingly pronounced a decree nisi and condemned the co-respondent in the costs of the suit. This case raises a question of some importance to the public and to the medical profession. Insanity must exist at the time of marriage in order to be a ground for the dissolution of the tie and therefore it would seem that the jury's finding was in keeping with the law. But it seems a very doubtful expedient to compel a man or a woman to cohabit and to risk the further procreation of children or further attacks of insanity in either party. Medical men have an unenviable position when asked for advice on such matters.

A Spiritualist's Will.

After a prolonged hearing before the President of the Probate, Admiralty, and Divorce Division a special jury recently upheld the will of a lady named Octavia Day, the validity of which had been impugned by her relatives on the ground that she was insane when she made it so as to render her incapable of properly disposing of her property. Those who study the evidence which was reported in the newspapers at some length will see that the lady undoubtedly suffered from delusions, and that the evidence of Dr. E. W. White was to the effect that she was suffering from chronic delusional insanity of a melancholic type which rendered her not competent to make a will. Cases of this kind seem to show that insanity must be of a very strongly marked character before it will be considered sufficient by a jury to invalidate a will formally made. It is of course no part of the duty of a medical attendant to prevent the making of a will, if his patient desires to make one, whatever the circumstances may be. He will, however, find it useful to remember that the will so made may be disputed and to record all material facts for the future refreshing of his memory should he be called upon to give evidence on the subject before a jury. The question whether the deceased was competent to make a will is one of fact for a jury whether a body of laymen can decide such a point satisfactorily or not.

Southern v. Thomas and Shyrne.

With considerable hesitation, as was shown by their inability at first to agree and their lengthy discussion afterwards, the jury in this case awarded £100 damages to the plaintiff. Mr. Justice Bigham on the following morning allowed a stay of execution in view of an appeal.

BRITISH MEDICAL BENEVOLENT FUND.

AT the November meeting of the committee 12 applications were received and grants amounting to £141 were voted in relief. An annuity of £20 was declared vacant and filled by the election of a suitable candidate. The receipt of legacies of £500 and £100, bequeathed by Dr. Thomas Trollope and Dr. John Cameron respectively, was announced and their investment in Great Northern 3 per cent. debenture stock was sanctioned. Appended is an abstract of the cases assisted.

Widow, aged 50 years, of L.R.C.P., L.R.C.S. Edin., who practised in Staffordshire and as a civil surgeon in South Africa during the war. Seven children, aged 21 to nine years, the three eldest just self-supporting. Quite unprovided for at husband's death. Recommended by Dr. H. Malet. Voted £12 in 12 instalments.

Widow, aged 64 years, of L.R.C.P., L.R.C.S. Edin., who practised as superintendent of a private asylum. Only provision the sum assured by a small life policy and not yet received. Five children, but only one able to give any help. Recommended by Dr. H. Whitby Phillips. Voted £10 in one sum.

L.R.C.P. Edin., aged 56 years, was operated on early in the year for a new growth, which has now recurred, and quite incapacitates applicant. No means and only very slight help from children. Recommended by Mr. Edmund Owen, vice-president. Voted £20 in two instalments at intervals of three months.

Daughters, aged 56 years and 53 years respectively, of a surgeon who practised in South Devon. Applicants have been hitherto helped by a brother, recently deceased, and their only income is a pension from the United Kingdom Beneficent Association. Recommended by Dr. H. A. Martin. Voted £18 in 12 instalments.

Daughter, aged 35 years, of late M.R.C.S., L.S.A., who practised in Yorkshire. No income and unable to undertake any permanent employment on account of ill-health. Recommended by Mr. Forrest Lester, honorary local secretary. Voted £10 in two instalments.

Widow, aged 56 years, of M.R.C.S., who practised as a locum-tenent. Unprovided for at husband's death and unable to obtain work on account of her age; slight help from a son-in-law. Relieved three times—£34. Recommended by Dr. J. Mitchell Bruce, vice-president. Voted £12 in 12 instalments.

Daughter, aged 64 years, of late M.D. Edin., who practised in Scotland. Lives with her mother whose income is very slender and receives a small allowance from the Indigent Gentlewomen's Fund. Relieved three times—£18. Recommended by Dr. J. M. Hunt. Voted £6 in six instalments.

Daughter, aged 60 years, of late M.D. Edin., who practised in Manchester. Is companion to an invalid lady but only receives a small salary. Relieved twice—£24. Recommended by the Salters' Company. Voted £12 in 12 instalments.

Daughter, aged 54 years, of late M.R.C.S., L.S.A., who practised in Kent. No income. Dependent on needlework and the kindness of friends. Relieved twice—£20. Recommended by Dr. N. W. Barrington. Voted £12 in 12 instalments.

Widow, aged 64 years, of M.D. Edin., who practised in London. Supported herself for several years after husband's death but was

advised to resign the post she held on account of ill-health, and is now dependent on a married daughter who can ill afford to help. Relieved five times, £50. Recommended by Mr. Stamford Felce. Voted £12 in 12 instalments.

Daughter, aged 36 years, of late L.R.C.P., L.R.C.S. Edin., who practised in Northumberland. Endeavours to support herself by taking resident patients but at present is without any. Relieved four times, £35. Recommended by Sir George Hare Philipson. Voted £5 and to be advised to obtain a situation.

Widow, aged 50 years, of L.R.C.P., L.S.A., who practised in Yorkshire. No income; lets lodgings; only child, a daughter, stays at home to assist. Husband's means exhausted by long illness before death. Relieved six times, £72. Recommended by Dr. J. Gordon Black. Voted £12 in 12 instalments.

Looking Back.

FROM

THE LANCET, *SATURDAY*, Dec. 6th, 1828.

HOSPICE DE LA SALPETRIERE.

OSSIFIED EXTRA-UTERINE FŒTUS.

A FEMALE, who had been for several years at the Salpétriere, on account of mental derangement, died in her 77th year. On examining the abdomen, a small tumour was found in the pelvis, slightly adhering by some layers of cellular tissue to the mesentery, and a loop of the small intestines; the uterus and its appendages, as well as the other abdominal viscera, were perfectly healthy. On a closer inspection of this tumour, it was discovered to be the skeleton of a fœtus, surrounded by a thin, and nearly transparent, membrane; it had an oval form, was two inches in its largest diameter, and was, by a sort of indenture, divided into two unequal halves, the largest of which contained the head, the smaller the trunk. The skull was very well formed, completely ossified, 1¾ inch in its antero-posterior, 1¼ inch in its transverse, and one inch in its vertical diameter. The bones were regularly developed; not the slightest trace of a fontanelle could be found, and all the sutures were perfectly united. The frontal bone was much arched; the parietal bones were also very prominent, especially that of the right side; the temporal bones were placed almost horizontally, and exhibited the rudiments of a glenoidal cavity; that of the right side presented a sort of zygomatic arch, united to a small os malare, which terminated in a rough articular surface; the upper and lower jaw-bones were entirely wanting; the orbits were well formed; the occipital bone was a little elongated towards its upper part; its lower portion consisted of several separate pieces. The skull was united to the trunk by fibro-cartilaginous ligaments, at least an articular surface could not be found, on external examination. The trunk being somewhat curved anteriorly, showed the rudiments of a vertebral column; the place of the sternum was occupied by a very thick fibro-cartilaginous mass; the ribs, as well as the bones of the shoulder and the clavicles, were completely ossified; the vertebral column terminated below in the sacral bone, and the rudiments of the pelvis. The extremities were wanting, with the exception of some traces of the upper-arm. On internal inspection of this skeleton, the cavity of the skull was found of a regular form, its parietes being one-twenty-fourth of an inch in thickness; they were lined with the dura mater, the folds of which were well developed, and contained a gelatinous fluid, of a yellow colour, without any distinct organisation. The cervical vertebræ consisted of several pieces, of an irregular form, so that the single vertebræ could not be distinguished; the dorsal vertebræ were more developed, and distinctly annular; the lumbar vertebræ, as well as the sacral bone, consisted of irregular pieces. The abdomen and thorax formed one cavity, at the upper portion of which the pleura was distinctly seen lining the ribs; its lower half contained a greyish-yellow adipocirous mass, with apparent traces of folds, representing, no doubt, the intestines. In the centre of this mass a brown nucleus was discovered, with a small cavity, which was continued, in a thin filament of the same colour, along the vertebral column, and which were very probably the remains of the heart and aorta. On the external surface of the skull, particularly on the right side, several vessels were seen running towards the median line; some intercostal vessels could also be distinguished.—*Archiv. Génér. de Médecine.*

VITAL STATISTICS.

HEALTH OF ENGLISH TOWNS.

IN 76 of the largest English towns 8084 births and 4799 deaths were registered during the week ending Dec. 1st. The annual rate of mortality in these towns, which had slowly increased in the five preceding weeks from 14·6 to 16·3, declined again last week to 15·8 per 1000. During the first nine weeks of the current quarter the death-rate in these towns averaged 15·4 per 1000; the rate during the same period in London did not exceed 14·5. The lowest death-rates in the 76 towns during the week under notice were 5·0 in Northampton, 6·0 in Hornsey, 8·0 in Devonport, and 8·2 in Coventry; the rates in the other towns ranged upwards to 22·3 in Salford, 22·7 in Rochdale, 26·0 in Tynemouth, and 26·9 in Swansea. The 4799 deaths in the 76 towns showed a decline of 146 from the number returned in the previous week, and included 414 which were referred to the principal epidemic diseases, against numbers steadily declining from 2570 to 365 in the 12 preceding weeks; of these, 114 resulted from measles, 89 from diphtheria, 75 from diarrhœa, 53 from whooping-cough, 43 from "fever" (principally enteric), 41 from scarlet fever, and two from small-pox. The deaths from these epidemic diseases were equal to a mean annual rate of 1·4 per 1000 in the 76 towns, and did not exceed 1·0 in London. No death from any of these epidemic diseases was recorded last week in Wolverhampton, Walsall, Northampton, York, or in seven other of the 76 towns; the annual death-rates therefrom, however, ranged upwards in the other 65 towns to 3·3 in Oldham, 3·6 in Salford, 4·7 in Bootle, and 6·1 in South Shields. The 114 fatal cases of measles showed a decline of seven from the number in the previous week, but caused an annual rate of 3·0 in Rochdale, 4·0 in Bootle, and 4·7 in South Shields. The 89 deaths referred to diphtheria exceeded the number returned in any previous week of this year, and included 20 in London, six in West Ham, four in Gateshead, three in Nottingham, nine in Liverpool, seven in Manchester and Salford, eight in Leeds, and three in Hull. The 75 fatal cases of diarrhœa exceeded the number in the previous week by six, and were proportionally most numerous in Swansea and Middlesbrough. The 53 deaths from whooping-cough considerably exceeded the low numbers returned in recent weeks, but showed no marked excess in any of the 76 towns. Of the 43 deaths referred to "fever," seven were returned in London, three in Liverpool, five in Manchester, three in Salford, two in Burnley, two in Sheffield, and two in Hull. Scarlet fever showed the highest death-rate in Leyton, where three fatal cases were returned. The two deaths from small-pox occurred in Hull. No case of small-pox was under treatment in the Metropolitan Asylums Hospitals during the week, no case of this disease having been admitted thereto since the end of June. The number of scarlet fever cases under treatment in the Metropolitan Asylums Hospitals and in the London Fever Hospital, which had been 4150 and 4144 in the two preceding weeks, had further declined to 4053 at the end of the week under notice; 401 new cases were admitted to these hospitals during the week, against 462 and 467 in the two previous weeks. The deaths in London referred to pneumonia and other diseases of the respiratory organs, which had increased in the five preceding weeks from 150 to 312, were again 312 last week and were 154 below the corrected average in the corresponding week of the four preceding years 1902–05. The causes of 50, or 1·0 per cent., of the deaths registered during the week were not certified either by a registered medical practitioner or by a coroner. All the causes of death were duly certified in Leeds, West Ham, Bradford, Newcastle-on-Tyne, and in 46 other of the 76 towns; the proportion of uncertified deaths again showed a considerable proportional excess in Birmingham, Liverpool, Bootle, St. Helens, South Shields, and Gateshead.

HEALTH OF SCOTCH TOWNS.

The annual rate of mortality in eight of the principal Scotch towns, which had been equal to 17·0 and 19·1 per 1000 in the two preceding weeks, declined again to 17·6 in the week ending Dec. 12th, but exceeded by 1·8 the mean rate during the same week in the 76 English towns. The rates in the eight Scotch towns ranged from 9·1 and 12·6 in Perth

and Paisley, to 22·5 in Dundee and 27·8 in Aberdeen. The 604 deaths in the eight towns showed a decline of 49 from the number returned in the previous week and included 61 which were referred to the principal epidemic diseases, which were fewer by nine than those returned in the previous week. These 61 deaths were equal to an annual rate of 1·8 per 1000, and exceeded by 0·4 the rate from the same diseases in the 76 English towns; they included 22 which were referred to diarrhœa, 16 to whooping-cough, 11 to measles, seven to "fever," three to diphtheria, two to scarlet fever, and not one to small-pox. The 22 deaths referred to diarrhœa were fewer by four than those returned in the previous weeks, and included eight in Glasgow, four in Dundee, and three both in Paisley and Greenock. The fatal cases of whooping-cough showed an increase of three above the number in each of the two previous weeks; 14 of these occurred in Glasgow and two in Aberdeen. Of the 11 deaths from measles seven were returned in Aberdeen and two in Leith. The fatal cases of scarlet fever and diphtheria were fewer than in any recent week. Of the seven deaths referred to "fever" six occurred in Glasgow, of which four were certified as cerebro-spinal fever; and a fatal case of the latter disease was returned in Edinburgh. The deaths in the eight towns referred to diseases of the respiratory organs, including pneumonia, which had increased from 94 to 139 in the four preceding weeks, further rose last week to 145, but were one below the number returned in the corresponding week of last year. The causes of 34, or 5·6 per cent., of the deaths registered during the week were not certified; the mean proportion of uncertified deaths in the 76 English towns during the same week did not exceed 1·0 per cent.

HEALTH OF DUBLIN.

The annual death-rate in Dublin, which had been equal to 25·6 and 23·8 per 1000 in the two preceding weeks, was again 23·8 in the week ending Dec. 1st. During the first nine weeks of the current quarter the death-rate in the city averaged 24·3 per 1000, the mean rate during the same period being only 14·5 in London and 15·5 in Edinburgh. The 173 deaths of Dublin residents during the week under notice corresponded with the number in the previous week, and included 16 which were referred to the principal epidemic diseases, against 14 and 19 in the two preceding weeks; these 16 deaths were equal to an annual rate of 2·2 per 1000, against 1·0 and 0·9 respectively from the same diseases in London and Edinburgh. These 16 deaths in Dublin last week included four from diarrhœa, three from "fever," three from whooping-cough, three from scarlet fever, two from diphtheria, and not one from small-pox. The fatal cases of measles and of diarrhœa showed a decline from recent weekly numbers, whereas those of "fever," whooping-cough, and diarrhœa were more numerous. Three inquest cases and three deaths from violence were registered; and 72, or 41·6 per cent., of the deaths occurred in public institutions. The causes of six, or 3·5 per cent., of the deaths registered during the week were not certified; the percentage of uncertified causes of death during the same week did not exceed 1·0 in London, while it was so high as 6·5 in Edinburgh.

THE SERVICES.

ROYAL ARMY MEDICAL CORPS.

Lieutenant-Colonel Cathcart Garner retires on retired pay (dated Dec. 5th, 1906).

ROYAL ARMY MEDICAL CORPS IN INDIA.

The undermentioned officers are permitted to continue in their appointments of specialists in the subject noted. Prevention of Disease: Major O. R. A. Julian (Peshawar), Major W. J. Taylor (Kamptee), Major J. B Anderson (Meerut), Captain W. M. H. Spiller (Allahabad), Captain A. B. Smallman (Secunderabad), Captain J. H. Brunskill (Rangoon), and Lieutenant D. P. Watson (Karachi).

The undermentioned officer is appointed a Specialist in Prevention of Disease from the date he takes over charge: Captain P. S. Lelean (Bareilly).

Captain J. F. Martin, on transfer from Northern Command to Western Command, is posted to 6th (Poona) Division. Lieutenant H. G. Sherren on arrival from England is posted to 6th (Poona) Division. Captain M. C. Beatty is transferred from 5th (Mhow) Division to 6th (Poona) Division. Captain A. J. Williamson is transferred from 4th (Quetta) Division to Aden Brigade. Lieutenant S. C. Bowle is transferred from 5th (Mhow) Division to 6th (Poona) Division. Lieutenant P. Dwyer is transferred from 6th (Poona) Division to 5th (Mhow) Division. Major R. C. Lewis returned to Bareilly from Meerut on arrival of Lieutenant-Colonel T. B. Winter from special duty, Simla, Sept. 23rd, 1906. Major Mould is ordered to Meerut for duty on the closing of hill depôts. Captain Waters is ordered to Meerut on the closing of hill depôts. Captain Grech is ordered to Meerut on the closing of hill depôts. Captain F. G. C. Heffernan is ordered to Lucknow in place of Captain Maurice. Captain G. T. K. Maurice is ordered to Meerut for permanent duty. Major H. W. Austin is transferred from Quetta to Karachi. Captain J. Dorgan proceeded to England as tour expired on Nov. 2nd, 1906. Captain F. E. Rowan-Robinson returned to Colaba from privilege leave on Oct. 24th, 1906. Captain G. A. K. H. Reed returned to Nowgong from leave on private affairs on Nov. 1st. 1906. Captain J. G. Bell returned to Jhansi from leave on private affairs on Nov. 2nd, 1906. Lieutenant F. H. Noke proceeded from Poona with the Hathaway ambulance wagon to Meerut on Nov. 1st, 1906.

Exchanges have been sanctioned between Lieutenant-Colonel C. E. Faunce, now on leave in England, and Lieutenant-Colonel H. S. McGill, with effect from the date of the latter officer's arrival in India; and between Major F. A. Symons, now on leave in England, and Major F. W. Begbie, with effect from Nov. 14th, 1906.

The following officers have been struck off the strength of the Indian establishment:—Lieutenant-Colonel C. E. Faunce, Major F. A. Symons, Captain T. J. Potter, and Captain P. H. Henderson.

The following Royal Army Medical Corps officers have been detailed for duty in the transports stated: Lieutenant-Colonel D. M. O'Callaghan and Lieutenant-Colonel R. L. R. Macleod, Captain H. G. Martin and Captain A. W. Hooper, and Lieutenant G. W. W. Ware on the *Rewa*, which left England on Oct. 19th, 1906. Lieutenant-Colonel H. P. G. Elkington and Lieutenant-Colonel T. J. R. Lucas, and Lieutenant A. E. F. Hastings and Lieutenant J. S. Dunne on the *Assaye*, leaving England on Nov. 7th, 1906. Lieutenant-Colonel E. Eckersley, in medical charge of 8th transport *Rewa*, sailing from Bombay on Jan. 17th, 1907. Major J. W. Jennings, for duty on 11th transport *Plassy*, sailing from Bombay on March 6th, 1907.

Captain D. J. F. O'Donoghue embarked for England on Oct. 11th, 1906, on six months' medical certificate leave. Major W. T. Mould has been granted general leave on private affairs to England from Oct. 23rd, 1906, to April 4th, 1907.

ARMY MEDICAL RESERVE OF OFFICERS.

A Royal Warrant, dated Oct. 23rd, has been issued containing revised regulations respecting appointment to the Army Medical Reserve of Officers. Commissions as lieutenants in the Army Medical Reserve may in future be given to persons, not over 30 years of age, who may be duly qualified under regulations approved by the Army Council. The ranks of officers of the Army Medical Reserve will be those of captain and lieutenant, and the total period of service in the Reserve will be limited to seven years. On the completion of three and a half years' service a lieutenant will be eligible for promotion to the rank of captain, if recommended for that rank. Appointments to commissions will be made on probation and persons so appointed will undergo an initial training of two months, on the expiration of which, should their work and conduct be considered satisfactory, their commissions will be confirmed. Officers of the reserve before promotion to the rank of captain will fulfil such conditions as the Army Council may determine, and will undergo one month's further training. When called to army service, or while undergoing training, officers of the reserve will receive the pay and allowances of officers of similar rank in the Royal Army Medical Corps. After the first year's service an officer will, in addition to any such pay and allowances for days of actual service, receive pay at the rate of £20 a year. This rate will be increased to £25 a year if the officer is promoted to the rank of captain. Officers of the Army Medical Reserve, constituted by this Warrant, will be liable to be called to army service at home or abroad at a time of emergency.

and will also be subject to the general regulations applicable to Army Reserve officers so far as such regulations do not conflict with those laid down in this Warrant. The sum of £5 will be allowed towards the provision of uniform. We wish that we could consider that the Royal Warrant, the nature and terms of which are here set forth, is altogether calculated to fulfil its object in view, which is really one of national importance, especially in the case of war, for which eventuality all the arrangements for the expansion of the medical service in this respect require to be thoroughly thought out beforehand.

VOLUNTEER CORPS.

Royal Garrison Artillery (Volunteers): 1st Edinburgh (City): Surgeon-Lieutenant A. M. McIntosh to be Surgeon-Captain (dated Sept. 21st, 1906).

Rifle: 2nd Volunteer Battalion, the Northumberland Fusiliers: Surgeon-Lieutenant Colonel and Honorary Surgeon-Colonel A. Wilson is borne as supernumerary whilst holding the appointment of Brigade-Surgeon Lieutenant-Colonel, Senior Medical Officer, Tyne Volunteer Infantry Brigade (dated June 1st, 1906). 2nd Volunteer Battalion, the Prince Albert's (Somersetshire Light Infantry): Surgeon-Captain J. G. Bain resigns his commission (dated Nov. 14th, 1906). 1st (City of Bristol) Volunteer Battalion, the Gloucestershire Regiment: Supernumerary Surgeon-Major A. W. Prichard (Brigade-Surgeon-Lieutenant-Colonel, Senior Medical Officer, Portland Volunteer Infantry Brigade) to be Surgeon-Lieutenant-Colonel (dated Nov. 9th, 1906). 3rd Volunteer Battalion, the Duke of Wellington's (West Riding Regiment): Surgeon-Lieutenant A. Waugh to be Surgeon-Captain (dated Nov. 2nd, 1906). 3rd Volunteer Battalion, the South Staffordshire Regiment: Surgeon-Major C. A. MacMunn is seconded whilst holding the appointment of Brigade-Surgeon-Lieutenant-Colonel, Senior Medical Officer, Staffordshire Volunteer Infantry Brigade (dated June 1st, 1906). 1st Volunteer Battalion, Princess Charlotte of Wales's (Royal Berkshire Regiment): Surgeon-Lieutenant W. M. Parham to be Surgeon-Captain (dated Oct. 28th, 1906). 1st Volunteer Battalion, the King's Own (Yorkshire Light Infantry): Surgeon-Major E. Lee is seconded whilst holding the appointment of Brigade-Surgeon-Lieutenant-Colonel, Senior Medical Officer, Humber Volunteer Infantry Brigade (dated June 1st, 1906). 1st Volunteer Battalion, the King's (Shropshire Light Infantry): Surgeon-Major and Honorary Surgeon-Lieutenant-Colonel W. H. Packer, to be Surgeon-Lieutenant-Colonel (dated Oct. 20th, 1906). 1st Volunteer Battalion, the Durham Light Infantry: Surgeon-Lieutenant-Colonel and Honorary Surgeon-Colonel J. W. Blandford is borne as supernumerary whilst holding the appointment of Brigade Surgeon-Lieutenant-Colonel, Senior Medical Officer, Tees Volunteer Infantry Brigade (dated June 1st, 1906).

VOLUNTEER AMBULANCE SCHOOL OF INSTRUCTION.

The annual competition for the Maclure Challenge Shield took place on Dec. 1st. 17 squads competed representing the Imperial Yeomanry, Infantry and Royal Army Medical Corps of the Volunteers of the London district and Eastern Command. The subjects were Ambulance Drill, Roller Bandaging, Hospital Duties, and the Sanitation of Camps, the competition being confined to those non-commissioned officers and men who had already obtained the Army Ambulance certificate. The shield was won by the first squad of 1st Cadet Battalion of the King's Royal Rifles which made 522 marks out a possible 600. The second squad of the same corps made 498 marks and gained the second place. The Senior Medical Officer's Cup was won by Sergeant F. W. B. Carter of the same corps, with 142 marks out of 160. Surgeon-Lieutenant-Colonel R. R. Sleman, in the unavoidable absence of Surgeon-Colonel P. B. Giles, Senior Medical Officer, thanked the large staff of examiners present and announced that Lieutenant-General W. H. Douglas, C.B., Adjutant General, would inspect the school and present the prizes on Dec. 12th.

THE MORAL WELFARE OF THE SOLDIER.

We have always advocated elementary military training with rifle shooting in our schools, not only because it is calculated to impress boys with a sense of the duty which they owe to their country in case of need, but because it is, as we believe, good for them mentally, morally, and hygienically. We may infer from what he has said that Mr. Haldane is very much of the same opinion and that he might have had this, among other things, in mind in stating a little time ago that the army problem had to be studied in its social and non-military as well as its military aspects. If so Mr. Birrell did not apparently concur in that but in the opposite view, for, politically speaking, he withdrew any seeming assent which he may have previously given to the introduction of rifle practice in schools. We are not by any means alone in holding that the feeling of responsibility and comradeship and the alertness of mind and habits of intelligent obedience acquired by the young in undergoing an elementary course of military training are very favourable aids to the spiritual and moral welfare of the future man, and the promotion of which so far as the British soldier is concerned is now engaging the attention of a War Office Advisory Committee.

FEVER AT PESHAWAR.

It is reported from India that there has been quite an unusual amount of sickness among troops in the Peshawar division. The proposed manœuvres have had, therefore, to be abandoned. The sickness is stated to be caused largely by an outbreak of malarial fever of a severe type with which army medical officers were familiar, for it was at one time of frequent occurrence in that command but until the present occasion has not been so prevalent of late years.

A new water bottle has been invented by Major Faichnie, R.A.M.C., which the War Office has accepted for test by the Experimental Committee.

A senior medical officers' class in bacteriology and tropical diseases for six officers only is to be held at Haslar Hospital, beginning on Dec. 5th.

Correspondence.

"Audi alteram partem."

THE STUDY OF THE STREPTOCOCCI PATHOGENIC IN MAN.

To the Editors of THE LANCET.

SIRS,—Some reply seems demanded by the letter from Dr. F. J. Poynton and Dr. A. Paine in the correspondence column of THE LANCET of Dec. 1st, p. 1538, criticising a recent contribution which you published for us. We therefore ask your leave to offer a few short remarks, though it is not our wish to enter here upon any controversy as to the bacteriology of rheumatism. In our article on the pathogenic streptococci we dealt with acute rheumatism at no great length because it was only a corner of the field which we had endeavoured to cover. The space at our disposal was quite insufficient for the adequate discussion of so important a matter. We confined ourselves to a brief statement of our own observations with a few words of criticism on the "diplococcus rheumaticus."

As regards malignant endocarditis Dr. Poynton and Dr. Paine have put into our mouths a general statement which a reference to our article will show that we never made. In referring to the *commonest* form of malignant endocarditis, chronic in course and insidious in onset, we stated that *our observations* tended to show that these cases have nothing to do with rheumatism, &c. We did not intend to suggest that malignant endocarditis never has anything to do with active rheumatism. We are well aware that it sometimes has a direct connexion, but it happened that this was not so in the particular series of cases we examined; where a rheumatic history was present it was more or less remote. The head and front of our offending seems to be that we have identified the examples of the "diplococcus rheumaticus" which have come into our hands with certain common saprophytic streptococci of the gut or mouth. Since our paper was published we have received from Dr. Forbes a streptococcus which he had just isolated from a necropsy on a case of rheumatic fever at the Great Ormond-street Hospital. This, too, proves identical in its reactions with one of the commoner intestinal streptococci found by Houston.

The position of Dr. Poynton and Dr. Paine hinges largely upon the specificity of their diplococcus. In common with many other bacteriologists we do not consider this specificity proven. No characters have ever been published by which the diplococcus can be recognised, so that we have been in complete ignorance as to its distribution in nature. The sole

character relied on has been the production of a non-suppurative polyarthritis and endocarditis in rabbits. Now animal experiment, uncontrolled by other means of research, may be a very dangerous guide. Even the specificity of these "specific" effects upon the rabbit is unproven. There is at least a certain amount of evidence (e.g., the experiments of Menzer and of Cole) that arthritis, endocarditis, and pericarditis of more or less "rheumatic" character may be produced in rabbits by the injection of streptococci from totally non-rheumatic sources, even from the normal throat. We cannot find that Dr. Poynton and Dr. Paine have controlled their results by any extended experiments of this sort. In those in which they used streptococcus pyogenes the rabbits naturally died from acute septicæmia.

Should it be confirmed that the "diplococcus rheumaticus" is identical with one or more of the common saprophytic cocci of the alimentary canal we believe that a name indicative of such a source would be preferable to one implying a specific connexion with a disease where such specificity is at least doubtful. The bacteriology of rheumatic fever has been so ably and so fairly dealt with by Dr. Balloch in the recently issued second volume of Allbutt's "System of Medicine" that there is no occasion to discuss it further here. We are in perfect agreement with the conclusions to which Dr. Balloch has been led. We regret that our reference to the decease of the culture sent us by Dr. Paine should have given offence. Streptococci not rarely die in the post and we intended no suggestion that it was not alive when sent off.

We are, Sirs, yours faithfully,

F. W. ANDREWES,
THOMAS J. HORDER.

St. Bartholomew's Hospital, Dec. 3rd, 1906.

THE BACTERIOLOGY OF ASEPTIC WOUNDS.

To the Editors of THE LANCET.

SIRS,—In the debate at the Medical Society on Oct. 22nd, 1906, I said that I had difficulty in following the reasoning of Mr. L. S. Dudgeon and Mr. Percy Sargent regarding the bacteriology of aseptic wounds. I urged that if the staphylococcus albus was regarded by them as necessary to healing it should be found in all cases. In reply, Mr. Sargent suggested that my difficulty arose from the extreme simplicity of the views advanced, and, if I understood him aright, he held that although staphylococci were not always found it did not follow that they were not always present.

With the whole paper before me in THE LANCET of Nov. 17th I should like to be allowed to draw attention to certain points which seem to require explanation. The authors have confirmed the observations of Professor Welch and others that a white staphylococcus shows a very great facility for getting into wounds, and they seem to consider its presence useful, if not essential, to healing. Professor Welch taught that this coccus was harmful although its powers for mischief were small, and his teaching seems to me to be the more in accord with the evidence. I cannot understand from the paper read at the Medical Society how far Mr. Dudgeon and Mr. Sargent agree with Professor Welch on this point. They speak of the staphylococcus albus as an organism of very low virulence. Again, they describe an aseptic wound as one "which heals by first intention, exhibits no naked-eye evidences of inflammation, and causes no constitutional disturbance." But in all the cases in which the wounds were described as aseptic there was "a pyrexia of from 99° to 100° F. for two or three days after the operation." This phenomenon, which surely was a constitutional disturbance, was attributed to the presence of the staphylococcus albus, and thus that organism seemed to induce one of the indications of septic action as defined by the authors.

I have from time to time combated the idea that micro-organisms are essential to inflammation, in which view I am definitely supported by the teaching of Lord Lister. Recently I argued that there is no hard-and-fast line between inflammation and physiological action or between various forms of inflammation.[1] In this I followed the teaching of Professor Adami, and since my paper was written he has published a most interesting and instructive account of all the most recent researches connected with the inflammatory process, in which he stated that "the attempt to mark off sharply the inflammations caused by mechanical and chemical noxæ from those produced by bacteria and their products must be given up."[2] It seems to me that the facts brought forward by Mr. Dudgeon and Mr. Sargent fall perfectly into line with this view. They have shown that a white staphylococcus—an organism of very low virulence—when injected into the peritoneal cavity induces an exudation rich in leucocytes. This is clearly an effect of irritation. Experimentally it has been shown that when this exudation has been produced the animal is able to survive the injection of a dose of colon bacilli which would inevitably prove fatal without the preliminary action of the staphylococci.

The explanation given by Mr. Dudgeon and Mr. Sargent, as I understand, is that the staphylococcus albus exercises a protective action as regards the peritoneum. Thus far their point is proved in the laboratory. But at the bedside we know that, in a case of gangrenous appendicitis, for example, there frequently is an exudation rich in leucocytes induced, I have no doubt, by a staphylococcus. Up to a certain point the patient is fairly safe with this fluid in the peritoneal sac. But if operative interference is delayed and pyogenic bacteria enter the belly cavity, these are mixed with the fluid and distributed all over the peritoneum, causing a widespread suppurative peritonitis. It is obvious that as these last changes take place the serum exuded in response to the milder irritant is not in any way useful to the animal economy or protective to the peritoneum. On the other hand, if a pyogenic organism enters the peritoneal cavity alone, adhesions and a localised abscess probably develop, in which case the *protective power* of suppuration, which Professor Welch laid much stress upon, is illustrated.

A very important point brought out by Mr. Dudgeon and Mr. Sargent in their interesting and instructive investigations is that the micro-organisms which most readily gain access to the tissues and which it is most difficult to keep out of wounds are among the least pathogenic. That their presence is desirable or useful seems to me, however, quite unproved, unless it be in the sense that, when means of communication were primitive, the scouts of an invading force might be considered useful to the inhabitants of an invaded territory by warning them and giving them time to prepare for a more serious attack. But that these scouts could be considered friendly or welcome can hardly be maintained, and in the same way it seems to me that staphylococci are undesirable in a wound. Hence every care should be taken to exclude all micro-organisms and the tables published by Mr. Dudgeon and Mr. Sargent seem to show that their exclusion was most effectually accomplished when chemical germicides were judiciously used.—I am, Sirs, yours faithfully,

Portman-street, W., Nov. 24th, 1906. JOHN D. MALCOLM

WARDS FOR THE OBSERVATION AND TREATMENT OF TEMPORARY MENTAL DISORDER IN GENERAL HOSPITALS.

To the Editors of THE LANCET.

SIRS,—In your leading article on this subject in THE LANCET of Dec. 1st, p. 1525, you refer with appreciation to the work achieved in the mental wards of the infirmaries of London. I have the figures for 1905 before me, showing that out of 7322 cases admitted, 2877 were discharged cured and 3583 were sent to asylums. I emphatically endorse your view, that treatment is needed in the early stages of the disease, during which it is perfectly obvious to the patients and their friends that the mental balance is disturbed, but in which period no efficient help is forthcoming. The present system of preliminary detention in infirmaries saves nearly 3000 cases annually from being unnecessarily stigmatised as lunatics, but, together with the grandiose and enormously expensive scheme of the London County Council, which would brand all its detained cases as lunatics, it has no provision for dealing with mental disease until the symptoms are sufficiently obvious to render certification the only safe procedure. Your suggestion meets a

[1] Inflammation and Peritonitis considered as Physiological Processes, Transactions of the Royal Medical and Chirurgical Society, vol. lxxxix.

[2] Allbutt and Rolleston's System of Medicine, vol i., p. 806.

real and urgent need and it is hoped that the hospital authorities of London will see their way to its adoption.

I am, Sirs, yours faithfully,

F. S. TOOGOOD, M.D. Lond.,
Barrister-at-Law; Medical Superintendent, Lewisham Infirmary.

Lewisham, S.E., Dec. 1st, 1906.

MORAU AND "JENSEN'S TUMOUR."

To the Editors of THE LANCET.

SIRS,—I have never claimed the Walker prize for Morau, but I do maintain that he is the discoverer and original investigator of the malady improperly called "Jensen's Tumour," of which there are many different histological types, none of which have any real similitude to human cancer, as I have elsewhere indicated. The "confusion and inaccuracy" to which Mr. Morris has alluded[1] are not in my writings.

I am, Sirs, yours faithfully,

Clifton, Bristol, Dec. 3rd, 1906. W. ROGER WILLIAMS.

THE ADMISSION OF WOMEN TO THE DIPLOMAS OF THE ROYAL COLLEGE OF SURGEONS OF ENGLAND.

To the Editors of THE LANCET.

SIRS,—I have always been one of those who contend that women should, if they wish, consult advisers of their own sex and that those who wish to enter the profession should have an opportunity of passing the requisite examinations. These conditions are now established. It would be a misfortune, alike for the profession and for the College, if it were to dissociate itself from the interests of an ever-increasing section of the profession, and I can only hope that a majority of the Fellows and Members of the Royal College of Surgeons will urge the Council to take its share in admitting the fit and rejecting the unfit candidates of both sexes for its diploma.—I am, Sirs, yours faithfully,

J. VINCENT BELL, F.R.C.S. Eng.

Eastbourne, Nov. 26th, 1906.

THE ACIDITY OF THE URINE.

To the Editors of THE LANCET.

SIRS,—In THE LANCET of Nov. 17th, p. 1381, appeared a notice of a translation by A. X. Stavros, D.Sc., of Joulie's method of examination of the urine and theory of the acidity of the blood. It was in May last that I first became acquainted with the Joulie method, and, as the theory underlying it seemed so reasonable, I commenced at once to test its usefulness in my own practice. The first case selected was one of chronic psoriasis, accompanied by an unusual amount of itching. For many years the patient had adopted well-known lines of treatment but had never received so much benefit as she noticed definitely and at once after following internal treatment along the lines of the suggestions resulting from the Joulie analysis of the urine. The eruption disappeared in a few weeks and so far there has not been any relapse—i.e., for six months. It would occupy far too much space if I were to attempt to report, even in brief, the interesting information gathered from these examinations of the urines of patients suffering from such diseases as psoriasis, eczema, urticaria, "ungluing" of the nails, universal dermatitis (such as pityriasis rubra), and some of the chronic, specially pruriginous, affections, such as pruritus ani. It is well known how sad the sufferings often are in the last-named rebellious ailment. My experience in one of these cases is worth recording here. It was that of a lady who had suffered for many years a little; for five years off and on, severely; and at the time when I first saw her she was in a very bad state notwithstanding that she could well afford and had kept up continuous medical treatment in many places. She was improving under my treatment of soothing applications, and her urine was no longer alkaline, as it had been when she first came to me. Almost certainly this alkalinity had been due to the alkalies which had been ordered previously. Thinking the case one about which I should almost certainly gain valuable information from the Joulie analysis, I gave her, by way of preparation, as few drugs as possible. The result was even better than I could have expected. The treatment suggested was adopted and within the first 24 hours the patient felt better. Night draughts which had been hitherto necessary to obtain sleep were given up. Her rapid and continuous improvement soon enabled the lady to return to her home in the country in July last. Two weeks ago she wrote gratefully saying there had been no relapse. Such a result in such a case must mean that there is something in this method which is too important to be ignored. Possibly much may yet have to be explained and modified with time, but I feel sure the method has come to stay. Already it promises to lessen the excessive employment of alkalies in the treatment of dyspepsias and gouty conditions. For many years, thanks to the teaching of my own father, I have been fully aware of the advantages of giving the citrates instead of the bicarbonates of soda or potash in certain gouty conditions, but it was new to me to find that in phosphoric acid and phosphate of soda, used as part of the Joulie method, that we had such a powerful means of correcting certain faulty conditions of the blood. Given a case of indefinite or suspected gout not answering well to ordinary alkaline or acid prescriptions, such a case will almost certainly repay well the trouble and expense of obtaining a Joulie analysis together with the suggestions always accompanying the report from the analytical chemist.

I am, Sirs, yours faithfully,

Wimpole-street, W., Nov. 29th, 1906. ALFRED EDDOWES.

SPLENOMEGALIC POLYCYTHÆMIA.

To the Editors of THE LANCET.

SIRS,—In THE LANCET of Nov. 24th, p. 1433, Dr. F. Parkes Weber attributes to Professor Osler the credit of describing as a "clinical entity" the condition now known as splenomegalic polycythæmia. I venture to point out that even these words are taken from a preliminary note to a paper on the same subject written by myself a year and a half before Professor Osler's. In THE LANCET of Feb. 22nd, 1902, p. 515, I published a paper entitled "An Unexplained Condition of Chronic Cyanosis," in which, by the kind permission of Dr. Saundby, I recorded the first case of the sort which had been published in England. My paper also contained abstracts of three similar cases which had been reported in American journals and concluded with a comparison of the four cases and an enumeration of the features, including polycythæmia, common to them all. It was inserted under the Mirror of Hospital Practice; but in a prefatory note written by yourselves you were good enough to make use of the following words: "The disease affecting the following case and the three other cases the records of which have been discovered by Dr. Russell, is evidently a definite clinical entity and one which is new to medical science." Professor Osler's paper was published in August, 1903, and contained four original observations, together with abstracts of the four cases dealt with in my paper and of Vaquez's case, the existence of which was unknown to me. Its opening sentence is as follows: "The group of cases here reported, with those collected from the literature, are worthy of careful study, as we have here in all probability 'a definite clinical entity and one which is new to medical science,' to use the words of Saundby and Russell in describing their case." This is, of course, incorrect, as the expression was used by the Editors of THE LANCET to summarise my conclusions. Professor Osler's name will always be so prominently associated with the condition that I feel sure that I need not apologise for making this statement.

I am, Sirs, yours faithfully,

Birmingham, Nov. 29th, 1906. JAMES W. RUSSELL.

THE PATHOLOGY OF SCIATICA.

To the Editors of THE LANCET.

SIRS,—Having seen only one-fifth (500 as against 2500 cases), I cannot set my views as to the real nature and pathology of sciatica—and, let me add, of neuritis of the upper arm—against those of Dr. Béla Bosányi of Budapest.[1] Fortunately, we do not really differ. I have never said that in every instance there is invariably present hip trouble in that complaint; I merely wished to point out such has been my own experience. I may very likely be influenced by

[1] THE LANCET, Nov. 24th, 1906, p. 1469.

[1] THE LANCET, Nov. 24th, 1906, p. 1472.

personal predilections, but the moral of my story was the need for more systematic care in the examination of individual sufferers in every patient applying to us for the cure of "sciatica."

One word more. I quite agree with my distinguished colleague that massage too frequently aggravates the trouble instead of doing it good. All the same, I am convinced it is, when and where properly applied, a most valuable remedy. Again, speaking from some little experience, I assert that even in cases of "malum coxæ senile" considerable benefit has resulted from massage and passive movements, more particularly from steady determined perseverance in the latter means of cure where the patient has been educated to lend his own help in the treatment. As to the anamnesis or "history" of sciatica and its symptoms my experience differs from his. In my cases the first onset of the disease as a rule was in and about the hip-joint.

I am, Sirs, yours faithfully,

Strathpeffer, Dec. 3rd, 1906. WILLIAM BRUCE.

CINNAMON OIL IN THE TREATMENT OF INFLUENZA.

To the Editors of THE LANCET.

SIRS,—Since reading Dr. J. Carne Ross's valuable communication in THE LANCET of Nov. 3rd, p. 1241, I have used the oil in a number of cases with an exact reproduction of Dr. Ross's excellent results. But an ounce of true oil of cinnamon costs 5*s.* 6*d.* and is sufficient for, at the outside, six adult cases. Now one pound of the tincture costs about 3*s.* 8*d.*, and, at the rate of one drachm and a half for a dose, is sufficient for 10, if not 11, adult cases, which would allow of the use of this valuable remedy in any class of practice. The constituents of cinnamon bark which are soluble in spirit, besides the essential oil, are tannic acid and sugar, and I would much like to be informed whether or no the presence of the tannin does, or is in sufficient quantity to, in any degree inhibit the absorption of the oil from the alimentary canal. A drug traveller tells me that the opening of the "influenza season" has for years brought him from at least one old customer a regular order for a Winchester quart of the tinct. cinnamomi B.P.

I am, Sirs, yours faithfully,

D. J. MUNRO, M.B., B.S. Lond.

Brixton, S.W., Dec. 1st, 1906.

THE INDIGESTIBILITY OF PLUMMER'S PILL.

To the Editors of THE LANCET.

SIRS,—In THE LANCET of Dec. 1st Sir James Sawyer calls attention to an interesting fact in connexion with Plummer's pill. It seems to me that it would have added considerably to the interest of the article had Sir James Sawyer quoted also the condition of the patient. It is true that the exact nature of the patient's complaint does not enter into the question, but one would like to know whether he (the patient) improved or not, even though the pills were being passed per anum undigested. It will also be a matter of interest, as can only be tested by ultimate experience, to know whether the pill, prescribed according to the magistral formula, would not require to be given less frequently in virtue of its greater solubility.

I am, Sirs, yours faithfully,

Henfield, Dec. 1st, 1906. ELDON PRATT.

LUMBAGO.

To the Editors of THE LANCET.

SIRS,—It is, I believe, a commonly accepted opinion that lumbago is a rheumatic affection of the tendinous insertions of the muscles of the lower part of the back. From close observation of a recent acute attack I feel convinced that this disease begins in the sacro-iliac joints and is mainly confined to them and not in the tendinous insertions of the erector spinæ or other lumbar muscles.

Now, what clinical evidence can I offer in support of this hypothesis? In the first place, all the efforts of the sufferer in seeking relief from pain are directed towards fixing the pelvis. His attitude is often peculiar, resembling that frequently observed in persons suffering from an attack of asthma—viz., sitting in an armchair with the trunk bent slightly forwards and supported on the elbows. In this position relief is obtained by transferring the weight of the spinal column to the arms and thereby easing the pressure of the sacral wedge on the sacro-iliac synchondroses. This position, also by enabling the chest to expand more fully, relieves to a great extent the increased pain resulting from downward pressure of the abdominal contents in deep breathing and coughing. When the ilio-psoas, quadriceps extensor, gluteus maximus, and other muscles attached to the leg and pelvis and which push the body forwards are brought into active service, as in ascending a hill or a flight of stairs, pain is always considerably increased. And so it is with other muscles that act powerfully on the pelvis, such as those attached to the crest of the ilium and which are concerned in producing lateral movement of the trunk, although not in themselves painful, by their contraction evoke acute pain in the sacro-iliac joints. Pressure forwards and inwards over the anterior superior iliac spines, in the erect posture, is accompanied by a great increase in the severity of the pain which subsides immediately the pressure is withdrawn. In the recumbent lateral position the joint nearest the bed or couch is the more painful. The back also is more sensitive to pressure over the sacro-iliac joints than closer to the spine, where the bulk of the erector spinæ lies. Tenderness frequently felt in the upward prolongations of this muscle is probably due to fatigue, cramp, or summation of contraction for defensive purposes—viz., to steady the adjacent painful joints. Torticollis, pleurodynia, dorsodynia, and other so-called analogous painful muscular conditions, although they may be present at the same time, are usually one-sided, whereas lumbago is always bilateral. Later in this disease, when the acute stage has subsided, any tenderness or stiffness that may remain is probably largely due to involvement of the neighbouring fibrous structures, but I feel certain that in the acute stage the joints are the principal seat of pain and the result of local treatment supports my contention. Dry-cupping gives immediate relief, especially if applied over the joints; if at some little distance—viz., over the bulk of the erector spinæ—the relief is not so great. Fixation of the pelvis with straps of adhesive plaster also affords relief.

I am, Sirs, yours faithfully,

Bournemouth, Nov. 30th, 1906. E. CURTIN, M.D. R.U.I.

FATALITIES UNDER ETHYL CHLORIDE.

To the Editors of THE LANCET.

SIRS,—In THE LANCET of Dec. 1st under the above heading I read with interest Mr. Carter Braine's letter and that of "A General Practitioner of Medicine." One cannot help agreeing with Mr. Carter Braine when he protests against Dr. T. D. Luke's method of arriving at mortality statistics. Were some "chloroform enthusiasts," as Dr. Luke calls them (see "Anæsthesia in Dental Surgery," p. 136), tempted to calculate mortality statistics for chloroform by the same method the results would be equally amazing and inaccurate. At the same time, I am relieved to find that an anæsthetist of wide experience such as Dr. Luke should speak up on behalf of ethyl chloride.

I agree with "A General Practitioner of Medicine" when he says that a death under an anæsthetic is a calamity to a general practitioner in a small district. For the last 18 years in a large country district a death under an anæsthetic has been my special dread. When ethyl chloride was introduced to us a few years I looked on it as an enormous boon to the country practitioner and his patients, because whereas formerly chloroform with its attendant anxieties, especially in minor operations and to a man working alone, was practically the only anæsthetic at his disposal, ethyl chloride provided us with an equally portable, easily administered, and relatively safer anæsthetic for short operations.

Nitrous oxide and nitrous oxide-ether sequence leave nothing to be desired as regards safety, but in the country the apparatus is cumbersome and the doctor setting out on horseback or on a motor bicycle with a bottle of ether hung on one side, a cylinder of nitrous oxide on the other, and an inhaler with large rubber bag slung on his back, would rouse even a Highland countryside to enthusiasm.

From June, 1902, up to this date I have had about 360 administrations of ethyl chloride in our local hospital and in my own practice. In one case there were somewhat alarming symptoms due, I believe, to the administrator pushing the drug when anæsthesia was already complete.

My experience, small as it is, seems to point to the conclusion that properly administered with due care and discrimination as to suitable cases, with the patients prepared as they are for chloroform and in the recumbent position, ethyl chloride is relatively safe and is an invaluable anæsthetic for the country practitioner. I trust that at an early date we may be in possession of reliable statistics with regard to the use and practical results of this anæsthetic.

I am, Sirs, yours faithfully,

JAMES B. SIMPSON, M.A., M.D., C.M. Edin.

Golspie, Dec. 1st, 1906.

THE ELECTION OF DIRECT REPRESENTATIVES.

To the Editors of THE LANCET.

SIRS,—As considerable interest has been aroused at this election and very many medical men are desirous to know the result as soon as possible, may we use your periodical to inform the profession that we are arranging to send the information on Wednesday next to any medical man who has previously communicated with any one of us?

The necessary conditions would be: (*a*) A telegram form containing the name and address must have been received at latest Tuesday next. (*b*) Sufficient postage to cover the address and *six* words besides should be affixed if only the names and number of votes received by the three successful candidates are desired. (*c*) If *all* the candidates' names and votes are required in order, then sufficient postage for the address and *twenty* words besides should be affixed

These telegrams can be expected by noon on Wednesday. The Registrar has stated that this procedure is in order.

We are, Sirs, yours faithfully,

ALFRED COX,
Bensham-road, Gateshead.

E. ROWLAND FOTHERGILL,
Southfields, S.W.

E. D. KIRBY,
107, Hagley-road, Edgbaston.

J. A. K. RENSHAW,
11, St. John-street, Manchester.

Dec. 5th, 1906.

THE MEDICAL TREATMENT OF SCHOOL CHILDREN.

To the Editors of THE LANCET.

SIRS,—The Education Bill provides not only for the medical inspection of school children but also for their medical treatment. Before "attending to the health and physical condition" of the children it is necessary for the local authority to obtain the sanction of the Board of Education; there is to be no wage-limit, but children attending voluntary schools are to be excluded from treatment, even though their fathers pay rates. All this is of much importance, for 96 per cent. of children attend Council schools. Probably at first the local authority will only treat out-patients on Saturday mornings at the schools, performing operations for adenoids, squints, and talipes on children between three and 14 years of age, but it will soon be said that many of the cases should have been treated before three years old, and in the case of congenital ailments from birth. Lastly, it will be said that many cases cannot be efficiently treated as out-patients and permission will then be granted to establish children's hospitals in those districts in which voluntary effort is inadequate.

The object of this letter is not to express its writer's opinions but to induce others to form their own. The absence of any clear provision for the scruples of conscientious objectors and for the protection of the children of foolish parents suggests that the clause has not been fully considered even by its authors. The best course would be to transfer it from the present Bill to that dealing with the feeding of school children, a subject with which it is more closely connected. This would allow of the clause being studied by those having some responsibility in the matter.

I am, Sirs, yours faithfully,

Dec. 4th, 1906. J. S.

SHIPPING COMPANIES AND THEIR SURGEONS.

To the Editors of THE LANCET.

SIRS,—This year I had an operation upon my ear and went as ship surgeon on a steamer running to South America, where there are laws affecting all steerage passengers in regard to their vaccination, certification, &c., especially in Uruguay and Argentina. Various shipping companies get doctors to sign their articles without giving them any information to speak of about these laws and when at sea avail themselves of the technicalities of an old "Shipping Act" and tell the surgeon that he is only a seaman under that Act, &c. Therefore they claim the right to order the doctor to vaccinate unlimited numbers of passengers without any extra pay, in the same manner as a cabin boy can be ordered to wash plates. The law of Uruguay had been in force for months and no extra pay had been paid to any surgeon for the extra work involved by that law. On arriving at Monte Video I put my foot down, and kept it down, on the ground that my signature to the ship's articles had been obtained by withholding material facts as regards my work, and the result was a crisis leading to a regular scene before a large audience and which ended in the Uruguayan doctors doing the work themselves. Since then I have made it my business to see that all surgeons on that line have a chance of knowing what is in store for them before they leave England, to the great wrath of the company and their superintendent. The whole subject is worthy of investigation, as we are shipped to regions where white men only work for high pay and despise those that do not. Perhaps some of your readers who have had similar experiences may be able to confirm my statements and so aid in inducing the shipping companies to mend their ways.

I am, Sirs, yours faithfully,

Dec. 3rd, 1906. MASTOID.

THE ARMY MEDICAL RESERVE.

To the Editors of THE LANCET.

SIRS,—There is an attempt now being made to raise an "Army Medical Reserve," an attempt which must necessarily prove unsuccessful considering the conditions demanded. First, an age limit of 30 is fixed. This excludes practically all medical men who have practices of their own, and certainly all who have established practices. Secondly, two months' training at Aldershot is required. This condition must prevent the majority of the small number not excluded by the age limit from applying. An assistant can hardly hope for two months' holiday, whilst a medical officer to institution, hospital, or asylum is in a hopeless case. As far as I can see the only one eligible is the newly qualified man who has nothing better to do. He may take out his first training but unless he elects to remain idle indefinitely he can hardly hope to take out another.

The £5 offered for purchase of uniform should be at least £15.

I am, Sirs, yours faithfully,

Nov. 29th, 1906. TOMMY ATKINS.

SOUTHPORT SHRIMPS FROM HOLLAND.

To the Editors of THE LANCET.

SIRS,—I see by your issue of Oct. 27th that your Manchester correspondent calls attention to one of the recent convictions (Bradford) for this fraud both upon the public and the local fishermen. A short account of the "manufacture" of potted shrimps may interest you. The trade in Dutch "preserved" shrimps is one of comparatively recent date.

The shrimps are imported in large quantities ready picked heavily "faked" with boric acid and will "keep" an indefinite time. Before being potted they have to be washed, whereby a large amount of the preservative is removed; they are then cooked in the usual manner, spice, &c., added to mask their unnatural flavour, and sent out broadcast as "Southport potted shrimps" and labeled as such. The fraud is committed quite openly and the trade is a large one. Before the shrimps are washed they are a filthy mixture quite unfit for food and it is a mystery to everyone that no steps are taken by our health authorities to stop the traffic. There is a fleet of about 70 boats engaged in the shrimp fishery here and a few years ago some of the local fishermen formed themselves into an association called the "Southport Shrimpers' Amalgamation." Their catches are taken to a central depôt where they are potted and distributed, no preservative being added, or indeed found necessary. They meet with great opposition on the part of the importers of foreign shrimps and in the winter season, when native shrimps are scarce, the fishermen find great difficulty in getting remunerative prices for their catches as the dealers in foreign shrimps always have plenty in pickle which compete with them.

The addition of a preservative has been proved over and over again to be quite unnecessary. The fresh shrimps can reach the most distant parts of England in 12 hours from the boats (after being potted), and if proper care and cleanliness are exercised in the process will keep quite seven days in the hottest weather.

The importers are now a wealthy body and have one of the most distinguished advocates to defend any of their number who may be prosecuted in other towns. They now rely upon the great case in Manchester, which lasted six days, when they had expert evidence engaged to speak as to the innocence of boric acid in food. Prosecutions are frequent and the neighbouring towns have "warned off" our product, but our local authorities wink at the business, much to the injury of our fair fame and reputation and of the local fishermen.

I am, Sirs, yours faithfully,

Southport, Nov. 10th, 1906. SALUS POPULI.

THE NATIONAL CONGRESS ON CANCEROUS DISEASES IN BUDAPEST.

(FROM A CORRESPONDENT.)

THE devastation which is caused by cancer among all races of mankind has lately directed the attention of the medical profession to the study of the disease on a much greater scale than heretofore.

This movement led to the formation in Hungary of the Cancer Committee of the Royal Society of Physicians and Surgeons, and upon the initiative of this committee a collective investigation of all existing cases of cancer in the country was begun on Oct. 15th, 1904. In this work almost every practitioner took part. In addition the statistical bureau has worked up since that time the mortality statistics for the period 1901–04 from the point of view of deaths from cancer. From these inquiries two conflicting results emerged—namely, in the first place, that 3570 cancer patients were enumerated in Hungary on Oct. 15th, 1904; and, in the second place, that according to the mortality statistics 26,912 deaths due to cancer took place during the four years merely in the parts of the country where cases of death are inquired into by medical inspectors. This is an important qualification, for in many parts of Hungary there are non-medical inspectors.

The registers of the outdoor department of the First Surgical Clinic in Budapest show that on an average one new patient suffering from cancer enters the clinic daily and that 20 per cent. of this large mass of patients although they had long been ill had not been previously seen by a medical man. In addition to this tendency of patients afflicted with cancer either to refrain from seeking medical aid or else to seek it at a very late stage, it is also certain that a great many of them have evaded registration at the collective investigation and that their number, in fact, considerably exceeds the 3570 enumerated. The large number of patients suffering from cancer made it necessary that the medical profession in Hungary should do everything in its power to relieve the sufferers and to keep abreast with similar movements in Western Europe. The idea of holding a national congress on cancerous diseases originated with Professor Dollinger and Professor Bókay.

The congress was held from Nov. 15th to 17th. On all these days operations were performed in the surgical and gynæcological clinics of the University of Budapest, to which operations the members of the congress were invited. Besides the Budapest surgeons there were 273 provincial practitioners present. The State railways generously issued tickets at reduced rates to members of the congress coming from the country. Besides the medical men there were also present as visitors some important personages, such as Count Apponyi, the Minister of Public Instruction, and Julius Vargha, the director of the Statistical Bureau.

Professor JULIUS DOLLINGER delivered the first address. In discussing present views as to the treatment of cancer he said that nearly 45 per cent. of those who had been treated surgically by the radical method for cancer in superficial positions, such as the breast and lip, during the last six years at his clinic had survived the three-year period (excepting, of course, those who were operated on during the last two years). He collected the statistics of over 600 operations, 45 per cent. of which showed survival three years after the operation. A good many of these cases were really inoperable when they presented themselves for treatment because the disease had already become general. The surgical statistics of cancer of the lip were most encouraging. There were many who seemed to think that a man suffering from cancer of the lip or a woman suffering from cancer of the breast was doomed, but this was by no means the case, for the statistics showed that nearly one-half of them would have their lives prolonged for at least three years and some of them lived on without recurrence. In the present state of knowledge as regards cancer it was discreditable that a medical man should allow a case under his care to go on to the inoperable condition. It was improper to wait until the regional glands were enlarged. Until it was made clear to every practitioner that cancer must not be neglected and that in most of the cases early diagnosis gave a prospect of recovery any further improvement in cancer statistics could not be expected. He was of opinion that cancer was a communicable disease. The facts on which he relied in support of this view were as follows. It had increased greatly in modern times; it was most frequent where population was thickest, so that, for instance, in proportion to the population it was more common in the poorer districts in Budapest than anywhere else; it seemed to follow certain water-courses; it became connected with houses; and many cases that were seen by surgeons could be readily traced to possibilities of communication. For instance, it was not unusual to find cancer occurring in those who were closely associated with one another. Of the possible presence of parasites in cancer there was as yet no definite knowledge. If there were parasites they must be very different from bacteria. Every cancer was epithelial in character, even though it might not be on the surface of the body. Why epithelial cells were capable of overgrowth with concomitant malignancy could not be determined.

Professor BARSONY emphasised the fact that in order to attain better results the medical men themselves must, in the first place, be taught to recognise cancer in an early stage and then they ought to teach the public. He recommended the erection of a cancer hospital by voluntary contributions for the study of the pathology and treatment of the disease.

Dr. KORÁNYI TÁNDOR discussed the early recognition of gastric cancer. He said that traces of blood and diminution of hydrochloric acid in the gastric juice were of some importance. A history of past ulcer was not against the subsequent diagnosis of cancer, for an ulcer often degenerated into cancer, as a large percentage of his cases showed. The presence of a tumour was not necessarily a contra-indication to operation. A small moveable growth in the pyloric end of the stomach was a rather favourable type, as it caused early obstruction. 70 per cent. of the cases were in the operable (pyloric) end of the stomach. All well-known means of diagnosis merely gave rise to a suspicion, and if the existence of cancer could not be disproved exploratory incision was called for. He concluded from the statistics that cancer of the stomach was the most frequently occurring of all cancers but that it was not always diagnosed.

Professor WILLIAM TAUFFER read a paper on the Radical Cure of Uterine Cancers. He called attention to the fact that many cases might be saved by amputation of the cervix. The radical method of removing not only the uterus but considerable tissue in its neighbourhood and all the glands involved as far as possible had been advocated in Germany for a time, but it did not give good results and was not worth considering as a routine treatment. In one half of the cases the lower glands were involved, but many of them could not be removed because of their position beside arteries. The attempts to eradicate all cancer tissue had been discredited on account of the accidents which had happened to the ureter and the bladder. He strongly recommended the enlightening of the public as to the symptoms of cancer of the uterus. It was unfortunate that the initial stage of cancer of the uterus was not painful, otherwise surgeons would always see the patients in an early and operable stage.

Dr. HOLZWARTH (Eugen) dealt with the use of the x rays in carcinoma. He first considered the demonstrable facts concerning the influence of the rays on carcinomatous tissue; and, secondly, he described his clinical results, the essence of which was as follows. Superficial epithelioma was the form in which the x rays were particularly of value. In

thick epitheliomata, say, of the thickness of the thumb, on the lower lip the rays should not be employed. There were two dangers from the use of the rays. One was that they would produce serious burns when employed by those who were not experienced in the manipulations and the other was that they would do positive damage when used in a case where a surgical operation, if employed sufficiently early, would hold out a good hope of permanent recovery but where the use of the x rays caused delay, wasted valuable opportunities, and lessened the chances of permanent success.

MANCHESTER.

(FROM OUR OWN CORRESPONDENT.)

Port Sanitary Authority.

THE port of Manchester is becoming increasingly important, more used by shipping, and therefore requiring more sanitary supervision. During November last 194 vessels were inspected in the port and of these 96 were in an insanitary condition. One case of typhoid fever occurred in a ship berthing at Salford Docks and was not notified until 24 hours after her arrival, as the captain did not know it was typhoid fever. The patient was removed to hospital and died there. The committee resolved to ask the Board of Trade to appoint its medical officer as medical officer of the port under the Merchant Shipping Acts, so as to increase its powers in dealing with matters of health.

New Hospital for Diseases of the Skin.

Four years ago an appeal was made for £35,000 to build a new hospital for diseases of the skin in Quay-street, and in November last year the central block and one wing were opened. As now completed by the building of the new wing the cost has been £38,113, of which £33,568 have been raised. At the opening of the new wing on Nov. 27th Sir James Hoy, the chairman, pointed out that they still wanted £5000. Among other donations announced, a third one of £1000 had been received from Mr. James Dawson. The income at present is £2200 and the annual expenditure £3700, which seems to be a fair specimen of hospital finance. Sir Thomas Barlow gave an address in which he recalled the fact that he was one of the old students of the original Owens College which stood 40 years ago a few yards from the hospital. He was not sorry that the hospital was placed in Quay-street, in a population that needed their help, for it was right to go to the poor rather than to make the poor come to them. In the hospital there is a laboratory for the study of skin disease named after the late Dr. Leech, in which Sir Thomas Barlow took great interest. As he said, "In furnishing that laboratory they had done their best to put their foot on quackery in connexion with skin disease." In conclusion, he spoke some words in appreciation of the medical student and his work in the wards.

The Jury and Fire-guards.

During an inquiry at the coroner's court on Nov. 28th as to the death of a child two years old from fire, the foreman of the jury asked Dr. W. Sellars, the deputy coroner, "if there was nothing that made it compulsory for parents to provide fire-guards." The answer, of course, was that there is no such law. This is the season when these accidents, as they are called, are especially frequent, and it may perhaps be allowable to suggest that the Ladies' Health Society of Manchester should take the matter up. No doubt many of the ladies and the paid visitors do urge the use of fire-guards, but it is worth while to make a special effort for protecting the lives of young children. The story is so familiar. The mother out—flannelette—no fire-guard—child's clothing in flames—painful death.

Prompt to Act.

On Nov. 28th an interesting presentation was made at Wigan to some railway men. It is perhaps a little outside the usual subjects treated in THE LANCET, but medical men, who have so often to act at once on their own responsibility, are of all others those who would appreciate the conduct that called forth the presentations. On Oct. 8th a train was leaving the Wigan platform for Southport. W. R. Coates, a shunter working at the end of the platform, noticed a Manchester to Blackpool express going on a parallel line in the same direction at full speed. The two lines converged a little way outside the station, so that unless stopped there would be a frightful collision. There was no time to tell the signalman, so he at once ran towards the coming express "shouting his hardest and wildly gesticulating." The driver saw him and jammed the brakes full on. Another man, Thomas Naylor, jumped on to the metals and warned the driver of the Southport train. The two trains, with their brakes grinding, stopped just on the converging point, but the buffers of the two engines interlocked and twisted one another and one or two inches more would have meant disaster. The passengers were horrified when they realised the danger in which they had been. Coates, Naylor, engine-driver Hornby, and the signalman Grundy each received a sum of money and a walking-stick. Some others also received presents. We do not always think of the debt which we owe to railway servants for their care and watchfulness, we take it as a matter of course, but as Mr. Astbury, K.C., M.P., says in a letter regretting his inability to be present, "Such heroic and ready-witted action deserves the highest commendation from not only the travelling public but from all who take a pride in the steadfastness, courage, and resource of our English workmen."

Care of Drunkards.

We are all interested in the care of habitual drunkards who, in spite of an increase of temperance, are far too numerous. They constitute a social curse in a neighbourhood and are always the source and centre of misery in a family. We therefore anxiously look for results at the Lancashire Inebriates Reformatory at Langho. At the quarterly meeting of the board on Nov. 29th Sir John T. Hibbert, the chairman, said that though they could not point to many cases of reformation they had done good to all who had come to Langho. It must be remembered that they had some of the worst characters to deal with. Since the opening they had had 152 inmates, 60 in 1904, 60 in 1905, and 32 this year, of whom 50 came from Liverpool and 43 from Manchester. One had been convicted 165 times and five had 730 convictions between them. The youngest was "a very intelligent" girl of 19. He thought there were great difficulties in making an ordinary citizen out of a habitual drunkard, but it was most important to give them a chance. "It was a question of having the people in their power for three years and making them used to good habits, keeping them away from drink, and teaching them a useful trade." 13 inmates went out of the home this year, and even if not thoroughly reformed "they had done an immense service to them, and a greater service to the places from which they came," by taking them out of the streets. Mr. J. T. T. Ramsay of Blackburn, the vice-chairman, said that they were trying to separate a class from mixing with the community which did incalculable harm. "In Blackburn the sending of three people to the reformatory had had a most salutary effect on the districts in which they lived." He suggested an amendment of the Act by which on the first breakdown of persons leaving the reformatory they should be recommitted for six years. He wished also the board could have some means of looking after those leaving the home "until they got properly on their feet." One would think that here was an opportunity for tactful private help. One fact bearing testimony to the human instincts that may still linger in the breast of even a degraded drunken woman is the following. Two babies have been born to inmates in the home and strictly, according to the Act, should have been sent to the workhouse when nine months old. They had had such a humanising influence on the inmates that the speaker said he would not have them removed at any price. "The babies brought out the best in the women." This seems a sensible departure from the letter of the law.

St. Mary's and the Southern Hospitals.

The amalgamation of St. Mary's and the Southern Hospitals has long been in contemplation and at last the legal formalities required by the Charity Commissioners have been overcome. The new hospital will be in High-street, close by the new infirmary. The present hospital in Whitworth-street, W., is to be used as an out-patient department, for maternity cases, and for the teaching of students and midwives. The women's and children's cases will be treated at High-street where there will be 80 women's beds and 25 children's beds. Happily for this enterprise the trustee of the late Mr. Gledhill has undertaken to provide £50,000 or so much of it as may be necessary. The equipment and furnishing will have

to be done out of the ordinary funds of the two hospitals and money will have to be raised if it is to be endowed adequately. The present income of the two hospitals leaves them with a serious deficit at the close of each year, notwithstanding economical management. Are the public of Manchester willing that this old charity should lapse into decay?

Dec 4th.

WALES AND WESTERN COUNTIES NOTES.

(FROM OUR OWN CORRESPONDENTS.)

University of Wales.

THE annual collegiate meeting of the court of the University of Wales was held on Nov. 30th at Cardiff, under the presidency of Sir Isambard Owen. The report stated that the senate having considered the draft resolutions in reference to the proposed faculty of medicine, were in favour of the appointment of an advisory board pending the establishment of a complete school of medicine in the University and the consequent inclusion in the senate itself of an adequate body of expert opinion on questions of medical education.

The Workmen's Compensation Act.

At Porth, South Wales, on Nov. 30th, a widow sought to recover £190 from the Ocean Coal Company on behalf of herself and child in respect of the death of her husband, who was killed in the colliery. His Honour Judge Bryn Roberts said that this was an extraordinary case, as the applicant had not been supported by the deceased since 1904. Although conjugal relationship took place they did not reside together and the child was born some four months after the man's death. His Honour added that the dependency of posthumous children upon the earnings of workmen had been completely overlooked by the legislature. He held that there must be actual and not merely legal dependency and therefore he did not see how the posthumous child could be dependent on the deceased, as the mother, when pregnant, was not at the time of the death of deceased dependent upon him. He therefore found for the defendants. A stay of execution was granted for the purposes of appeal.

The Medical Officer of Health of the Chipping Sodbury Rural District.

At a meeting of the Chipping Sodbury rural district council held on Nov. 28th a letter was read from the joint committees of the South-West Gloucestershire united districts stating that on Nov. 24th they had appointed Dr. F. T. Bond as the medical officer of health of the united districts for one year. The Local Government Board had fixed the salary at £573 per annum and Chipping Sodbury had been apportioned £149 of this. Dr. Bond, who was present at a portion of the meeting, said that he had come to report himself as the council had been advised of his appointment, and he then alluded to the outbreak of diphtheria in the district. On Dr. Bond's appearance at the meeting several of the councillors left the room.

Sanitary Matters in North Devon.

At a meeting of the Barnstaple rural council held on Nov. 30th the medical officer of health (Mr. J. R. Harper) reported upon the sanitary condition of the villages of Georgeham and Croyde. Mr. Harper stated that the drainage of both villages was discharged into running streams, whilst slop and surface water from many houses escaped directly on the highway, having no proper drainage, and in some instances the cesspits also overflowed directly on the highway. Mr. Harper advised that steps should be taken to prevent the pollution of the streams and that an additional sanitary inspector should be appointed to make periodical inspections. The chairman said that the committee entirely agreed with the medical officer of health that something must be done, but in the first instance it was decided to send the report to the Georgeham parish council.

Dec. 4th.

PRESENTATION TO A MEDICAL PRACTITIONER.—At the Great Western Railway Station, Wells (Somerset), the Mayor, on behalf of the class of the Great Western Railway employees' branch of the St. John Ambulance Association, presented Mr. Herbert William Allan, B.A. Cantab., L.R.C.P. Lond., M.R.C.S. Eng., with a case of pipes in appreciation of his services as honorary lecturer.

SCOTLAND.

(FROM OUR OWN CORRESPONDENT.)

Glasgow Western Infirmary.

AT the thirty-second annual meeting of qualified contributors to the Western Infirmary the report on the work of the past year was submitted. The number of indoor patients treated during the year was 6386, being an increase of 207 as compared with the preceding year, while in the outdoor department the numbers reached 27,456, an increase of 2879 on the preceding year. The number of patients in the hospital at any one time varied between 418 and 524, and the average period of residence of each patient was 26·79 days. The number of deaths was 516, or 8·79 per cent. of all the cases treated to a termination. Of the fatal cases, however, 154 were of such a hopeless character when taken to the hospital that the patients died within 48 hours after admission. Deducting this number, as usual, the death-rate is reduced to 6·34 per cent. The ordinary income of the infirmary was £21,654, or fully £1000 more than last year; while the ordinary expenditure was £32,368, or £1500 more than last year. The extraordinary income for the year, bequests, &c., amounted to £11,243 and the extraordinary expenditure to £2858. A sum of £5157 was transferred towards the ordinary expenditure, a sum of £655 to the convalescent home account, and a sum of £2573 to the new dispensary building account. A sum of £1144 was received towards the further extension fund. The cost of each bed fully occupied was £69 1*s.* 1½*d.*, as against £69 8*s.* 2*d.* in the previous year. The average cost per patient treated was £5 1*s.* 4½*d.*, as against £4 19*s.* 11*d.* in the year immediately preceding. During the year a new wing was opened in the infirmary, but notwithstanding this addition to the accommodation between 400 and 500 patients are waiting for admission. According to the plans for finally completing the infirmary three blocks are yet required, estimated to cost between £70,000 and £80,000. Meantime the directors are anxious to undertake the erection of the southern section of the wing recently opened which will cost £20,000; also to erect the block connecting this wing with the main building, the estimate for which is £35,000.

Compulsory Notification of Births.

The Parliamentary Bills committee of the Glasgow corporation at a meeting this week received a deputation headed by Professor R. Stockman consisting of 16 medical practitioners in the city with reference to the clause in the Glasgow Corporation Order, 1907, which provides that medical men must notify to the medical officer of health within 48 hours all births which they attend. The deputation expressed the opinion that the proposal was unnecessary and that in any case they should be allowed a fee for making the notification. The committee promised to consider their representations.

Proposed New Dispensary in Glasgow.

In THE LANCET of Oct. 20th an account was given of a meeting, presided over by the Lord Provost, at which it was proposed to establish a public dispensary in the Anderston district of the city, and at a later date (Nov. 10th) reference was made to a memorial signed by 20 medical men practising in the district and protesting against the establishment of such a dispensary as unnecessary. The *Glasgow Herald* of Dec. 4th deals with the proposal in a leading article and to all intents and purposes gives the finishing blow to a scheme which already seemed moribund. In the first place it is pointed out that the Anderston district is more amply supplied with such charitable agencies than any other quarter of the city. These various agencies are mentioned in detail and it is asserted that if this new scheme were carried into effect it would lead to vexatious and wasteful overlapping of philanthropic work. In the second place attention is drawn to the fact that almost all the hospitals of the city have engaged in schemes of reconstruction or enlargement in order to meet the increasing demand for dispensary treatment, that when these schemes are completed the city should be amply supplied in this respect, and finally that the money required for these alterations is not yet forthcoming, and until it has been supplied any further new scheme, even if it were necessary (which is denied), would be ill-advised.

Dec. 4th.

IRELAND.

(FROM OUR OWN CORRESPONDENTS.)

Irish Poor-law Medical Service.

A MEETING of the council of the Irish Medical Association was held in Dublin on Nov. 30th, when a committee was appointed to urge upon the Government the carrying out of the recommendations of the Vice-regal commission on the Poor-law system in Ireland.[1] A special general meeting of the association held on Nov. 14th had already passed four resolutions to the following effect:—

1. That in any reform the members of the Poor-law medical service and those of the county infirmary service should form a homogeneous State service.
2. That any body or council administering the Poor-law medical service should contain a majority of members elected periodically from among the members of the medical profession practising in Ireland.
3. That all hospitals and infirmaries under the contemplated Poor law service should be designated by a uniform title.
4. That in the administration of the proposed State Council a Department of Public Health with a Minister should be appointed.

The committee was appointed in order to bring these resolutions to the attention of the Government and the following have been nominated to serve upon it: Dr. J. S. McArdle, President of the Irish Medical Association; Sir William Thomson (Dublin), Dr. R. F. Tobin (Dublin), Sir John W. Byers (Belfast), Dr. R. J. Kinkead (Galway), Mr. H. T. A. Warnock (Donegal), Dr. P. J. Macnamara (Kilmallock), with the deputy chairman and the honorary secretary of the association.

The Health of Belfast.

At the last weekly meeting of the Belfast public health committee, held on Nov. 29th, it was reported that for the week ended Nov. 24th ten cases of typhoid fever, 40 of scarlet fever, and six of diphtheria had been notified. The death-rate from all causes was 17·8. It was decided to recommend the city council to pay Professor W. St. C. Symmers £200 per annum for bacteriological reports and examinations. At a meeting of the city council of Belfast held on Dec. 3rd attention was drawn in the public health report to the great prevalence of scarlet fever and diphtheria. Between Oct. 21st and Nov. 17th 262 cases of zymotic disease had been notified—viz., 2 cases of typhus fever, 28 of typhoid fever, 132 of scarlet fever, 30 of simple continued fever (whatever nondescript this disease is), 4 of puerperal fever, 32 of diphtheria, 4 of membranous croup, and 30 of erysipelas—a list which shows that really no adequate precautions whatever have been taken to cope with such an extraordinary state of affairs. Congratulations on the fact that typhoid fever has—as appears in this list—been reduced 50 per cent. may be readily given, but their significance is somewhat discounted when it is seen that the subsidence of this disease has simply been replaced by such a terrible outbreak of scarlet fever and diphtheria. The circulation of posters urging the people to be careful about their children when convalescing from scarlet fever mixing with healthy children is a poor attempt to cope with such a terrible outbreak of scarlet fever. Anyone acquainted with the very rudiments of public health matters knows that the only way to cope with such an epidemic is the insistence of prompt isolation at the outset of the epidemic (in the case of those who have no facilities for proper nursing), but in Belfast we have an infectious diseases hospital just opened with accommodation for only 168 patients, and yet within one month 262 cases of zymotic disease have been notified! Everyone foresaw this difficulty but nothing was done.—At the same meeting of the council the town clerk, Sir Samuel Black, explained that although the letter from the Local Government Board of Ireland sanctioning Mr. H. W. Bailie's appointment as medical officer of health had been read at the meeting of the health committee the document had not, he understood, been seen by Dr. J. King Kerr.

The Water-supply of Belfast.

In the Chancery Division of the Four Courts, Dublin, before the Master of the Rolls, on Nov. 28th, the Belfast Water Commissioners applied for an *ad interim* injunction against a farmer restraining him from continuing to pollute streams of water which flowed from his lands into the Belfast Water Commissioners' reservoir at Stoneyford, from which portion of the Belfast water-supply was taken. It was stated by counsel that heaps of manure had been placed close to the river referred to and it was a matter of urgent importance. The Master of the Rolls made the order, as the matters complained of constituted, in his opinion, a grave danger to the public health.

[1] See THE LANCET, Nov. 24th, p. 1460.

Typhoid Fever in Holywood.

An epidemic of typhoid fever has broken out in the Holywood urban district, county Down, and already a number of cases have had to be removed to hospital.

Dec. 4th.

PARIS.

(FROM OUR OWN CORRESPONDENT.)

Sanitary Matters in Paris.

THE Municipal Council devoted a portion of the sitting of Nov. 5th to the consideration of various matters dealing with sanitation in Paris. M. Lajarrige proposed to open municipal washhouses in the working-class quarters of Paris. The right to use these establishments should be attainable on payment of a very small fee and even this could be remitted in the case of very poor persons. Soap and brushes would be supplied free. Many municipal councillors were in favour of the creation of a sanitary "dossier" for children attending the schools. It was proposed that every child attending a primary school should on entrance be required to produce a certificate of having been successfully vaccinated and another one to the effect that he or she was not obviously tuberculous. Whenever a child was absent from school the parents would be required to hand in a certificate that the disease was not contagious and no child would be re-admitted to school without a certificate of being in good health. The "dossiers" would be handed over to the children on their leaving school. M. Jollibois brought forward and succeeded in carrying a motion inviting the administration to apply for powers to obtain the passing of a law for the compulsory acquisition of insanitary property. The law as it stands at present provides that property may be compulsorily acquired on payment of a compensation fixed on the basis of the income of the property. It is now proposed that the cost of the works necessary to put the premises in a sanitary condition should be estimated and that this amount should be deducted from the amount paid as compensation reckoned on the income brought in by the property. M. Ambroise Rendu proposed that a sum of 50,000,000 francs should be set aside for this purpose. Finally, M. Jollibois raised the question of allocating a sum of from 6,000,000 to 10,000,000 francs for improving the woods, parks, and promenades of Paris and for the creation of new squares.

A Case of Dissimulation in a Child.

At a meeting of the Hospitals Medical Society, held on Nov. 18th, M. Souques showed a little girl, aged 10 years, who for the last three months had contrived to make both her parents and the family medical man believe that worms came from her nose when she blew it. The fact was indisputable but when the worms were examined at the museum they were found to be the larvæ of the apple moth and those of sundry weevils which were found in worm-eaten fruit. The child then confessed her deception, saying that she took the larvæ from the fruit and put them up her nose. She did this to be interesting.

Changes in the Paris Hospitals.

The Municipal Council of Paris has recently decided that a portion of the Laennec Hospital should be fitted up for the reception of tuberculous patients, only stipulating that the works for this purpose, which are estimated to cost 1,000 000 francs, should not be begun until the Assistance Publique has obtained a subvention of 500,000 francs from the funds of the Pari Mutuel. The Minister of Agriculture has, however, notified the Prefect of the Seine that this proposal has been most favourably considered and that he himself undertakes to see that it passes. With this despatch before him M. Navarre has proposed to the Municipal Council that although the committee of the Pari Mutuel does not meet until January an estimate should at once be got out for the works in question and this proposal has been accepted. The town of Paris will thus possess for the first time a hospital one quarter of which will be allotted to the care and treatment of tuberculous cases. M. d'Andigné, on behalf of the fifth

committee, presented a report of the council advising transferring (*desaffectation*) of the Beaujon Hospital and its reconstruction on a new site on the lands formerly occupied by the fortifications between the Villiers gate and the Ternes gate. The new hospital will, if this scheme be carried through, occupy a site of double the area of the existing building. A majority of the council decided that negotiations should be opened with the State about the site in question.

Dec. 4th.

VIENNA.

(FROM OUR OWN CORRESPONDENT.)

Grievances of Hospital Medical Officers.

THE movement amongst the new generation of medical men holding hospital appointments for obtaining a more independent and more dignified position is gaining strength. At present the medical officer who, after serving without salary for at least two years, may be appointed as secundararzt (junior surgeon or physician) with a salary of £60 a year but no board, has to do a very important part of the daily work. He also has not much to gain from staying longer in the hospital, because already the unpaid men are leaving the service, so that all the hard work comes upon the "secundar," leaving him no opportunity for scientific or even for practical work. Meetings of hospital medical officers are held every week and the conditions are discussed. A memorandum was recently presented to the directors of all hospitals asking for an increase in salaries to the extent of 50 per cent., free board, and the appointment of additional medical officers, so that no "secundar" should be in charge of more than 20 beds instead of the 40 or 45 beds which he may have at present. Prompted by the recollection of several charges of malpractice which have been brought recently the meeting advised obligatory insurance against actions for damages brought under the Liabilities Act. The recognition of the diplomas of ladies, with equal rights for both sexes, is another point of the memorandum. The month of February was mentioned as the date after which the hospital staff would be forced to consider the advisability of a passive strike if their just requests should not be complied with.

Misleading Advertisements.

The immense production of new pharmaceutical preparations has brought about a system of advertising by which these substances are "written-up" in laudatory paragraphs composed by certain medical men for payment. In order to stop these proceedings the medical journals have been requested not to accept such articles and the names of the writers have been partially disclosed, so that the medical profession may be put on its guard against trusting to the extravagant encomiums written by members of the list which is to be published shortly. This movement originated in Germany, where the German Medical Press Association is the foremost body of the kind, and has found many supporters in Austria, because the two countries are closely connected by language and the frequent scientific co-operation of public and learned corporations. The profession has also been requested to stop the prescribing of preparations which have obtained notoriety by such means, or of preparations which are advertised otherwise than through the medium of the medical press.

Malaria in Southern Austria.

The report of the hospital in Pola, which has for its main object the elucidation of the infectiousness of malaria in the south coast provinces of the empire, has now been published. Special attention has been paid to three features of the disease—namely, the pernicious form, the occurrence of relapses, and the proportion between the severe tertian (aestivo-autumnal type) and the mild tertian (vernal type). In a population of 50,000 persons there was only one case of pernicious malaria; in the same population there were also 23 new infections and 105 relapses; the proportion of mild cases to severe ones was as 42 to 100. Most of the patients were between 10 and 50 years old and 30 per cent. were females. The spleen was enlarged in more than 80 per cent., whilst in the remainder it could not be said to be enlarged, at least, as far as could be proved *in vivo*. The anti-malarial campaign was received, as a rule, in a friendly way by the population, except in two districts where there was a distinctly hostile attitude, so that the sanitary measures which were intended could not be carried out. This was to be regretted as these two districts contained typical breeding places of mosquitoes.

X Ray Photographs of the Skull and Brain.

Professor Benedikt showed at a recent meeting of the Vienna Gesellschaft der Aerzte a series of photographs of the skull and brain, in which the x rays succeeded in explaining mysterious symptoms and enabled a definite diagnosis to be made. In cases of disturbances of equilibrium or in Ménière's disease certain changes might be found. In a patient who was suffering from vertigo, headache, and loss of equilibrium he ascertained that the spongiosa of the frontal part of the skull was impervious to the x rays. An eburnation of the spongiosa was diagnosed and mercury was administered with good effect. He has also found that in normal conditions the outer lamella of the bones of the skull was more pervious to the rays than the inner one, so that an increase of the shadow showed a pathological condition. Furthermore, the spongiosa might also become harder and less pervious, especially in lines. This change took place after the receipt of an injury and could be traced well into the inner or outer lamellæ. It seemed to explain the existence of pressure symptoms over certain regions of the brain. If it was situated in the frontal brain anteriorly to the psycho-motor region it might interfere with the maintenance of equilibrium; if it was situated in the occiput it might cause headache and vertigo. It was possible by means of first-class photographs to differentiate abscesses, neoplasms, and exudation within the skull. By two photographs taken in vertical planes at right angles to each other the perspective and situation of the lesion were made clear.

Removal of a Foreign Body from the Bronchus of an Infant.

At a recent meeting of the Pædiatric Society Dr. von Schrötter showed an infant six months old who had been seized with dyspnœa while eating a piece of sausage. It was found that the respiration of the right lung was interfered with. After an unsuccessful attempt at extraction with a bronchoscope of five millimetres (one-fifth of an inch) in diameter the dyspnœa was lessened, probably because the foreign body was pushed lower down the bronchus, so that part of the lung tissue became available for breathing. A bronchoscope three and a half millimetres in diameter was then introduced and after some forcible movements a piece of bone was extracted by means of forceps. The operation was performed without an anæsthetic and without tracheotomy but before the first introduction of the instrument the larynx was cocainised. The child's temperature rose after the extraction but no pneumonic manifestations appeared. The tracheal and bronchial reflexes are very slight in infants and for this reason such operations may be performed without exposing the little patients to the risks of chloroform. There is already quite a special literature of clinical reports of the extraction of foreign bodies from the lower air passages of infants and children under five years, and the relative immunity of the infantile mucosa is remarkable.

Dec. 3rd.

CONSTANTINOPLE.

(FROM OUR OWN CORRESPONDENT.)

The Transmission of Hydrophobia by Mice and Rats.

Dr. Santour, a doctor of veterinary medicine in Constantinople, has published several interesting cases of hydrophobia caused by rats and mice. The series of researches, which have been published of late in the French *Revue Scientifique*, seem to him to have established the fact that mice and rats are just as frequently, at least in the Orient, the cause of hydrophobia in men as are dogs. He relates the following characteristic case. On May 24th, 1906, a medical man in Smyrna was consulted by a young man whose *fiancée* had died from hydrophobia seven days previously. The latter was afraid that he had contracted the disease himself as kisses had passed between them a few days before the malady manifested itself. He brought with him a certificate of the municipal medical man stating that on May 8th the young girl, 18 years of age, was suddenly seized by symptoms that led to the immediate conclusion that she was suffering from hydrophobia. On the next day all the symptoms increased in intensity and three medical men called in for a consultation unanimously

diagnosed that it was a case of *rage furieuse*. They gave at the same time a fatal prognosis. The course of the disease was typical and the patient went from bad to worse. On the seventh day paralysis set in and on the ninth day after the first manifestation of the disease she died. She never differed in her answers when interrogated by the medical men, by her mother, or by her *fiancé*. She emphatically declared that she had never been bitten by a rabid dog or a rabid cat. She stated, however, that six months previously she had some work to do in the cellar of her house when suddenly a mouse jumped on her and bit her finger. There was a little flow of blood at that time and the pain was sharp, but this subsided and the patient did not attach any further importance to the matter. The attack of the mouse in the cellar, however, always remained very vividly in her memory. As it was absolutely impossible to find any other cause it is natural, Dr. Santour thinks, to conclude that the bite of the mouse was the origin of hydrophobia in the girl. He urges that more attention should be paid to the possibility of transmission of hydrophobia to man by rats and mice and recommends that all persons bitten by these animals should be immediately sent to the institute for hydrophobic patients.

Nov. 26th.

NEW YORK

(FROM OUR OWN CORRESPONDENT).

The Craig Colony for Epileptics.

THE thirteenth annual report of this colony is full of interest to those concerned in the care of these dependents. Dr. William P. Spratling, the able superintendent, is an enthusiast in his study and treatment of epileptics and now assures the public as the result of his large experience that epilepsy is curable and that he is personally cognisant of scores of cases cured during the past 20 years. He quotes also the report of the Bielefeld colony of Germany, which states that 587 epileptics in that institution have been cured since 1867. But Dr. Spratling lays great stress upon the importance of the early admission of patients. The census of the Craig colony shows the population to have been on Oct 1st, 1906, 1053—males 577, females 476. There were 58 deaths during the year, being four and six-tenths of the total number treated. To the question, "Is epilepsy increasing?" Dr. Spratling replies that it is probably not increasing out of ratio to the increase of the population, but more epileptics are now recognised by the public owing to the fact that something is being done for their better care and treatment. A complete census of epileptics cannot be taken in a given territory because the disease is so often unrecognised. He believes that epileptics are especially prone to tuberculosis and states that twice as many epileptics die from that disease as do persons not afflicted with epilepsy. Dr. Spratling is the author of a Bill preventing the marriage of epileptics which passed the Lower House of the Legislature last year. The research work in the laboratories of the Craig colony is being vigorously prosecuted by eminently qualified pathologists and gives promise of valuable results.

Tuberculosis among the Indians.

The United States Commissioner of Indian Affairs reports that during the last year he had collected data from 91 of the field physicians representing the conditions among half the Indian population of the country. These reports show that among every 1000 Indians there were about ten cases of pulmonary tuberculosis, 15 of glandular tuberculosis, and two of tuberculosis of the bones and joints. At the Carlisle Indian School there were ten cases of tuberculosis in a total membership of 904. At Pierre, State of South Dakota, a very high latitude, and a place where it was customary to send persons suffering from diseases of the lungs, there were 11 cases in a total of 146 Indian population. At the Indian school in Oklahoma territory there was but one case of tuberculosis among 748 pupils and in a similar school in the State of Kansas there was one case among 814 pupils. In the discussion of the causes of tuberculosis among the Indians, physicians generally assigned the insanitary conditions under which they live as the most potent and obvious factor in its prevalence. One noticeable feature in these studies was the greater prevalence of tuberculosis in tribes that had changed the rude and well-ventilated tepee in which they formerly lived to houses which they constructed in the most insanitary manner. It was also alleged that every case was caused by the excretions of the disease and no case developed in any other way. The remedy proposed was the creation of sanitary camps where all of the infected should be collected and maintained until the termination of each case.

Public Health Defence League

A new organisation with the above title has been created for the purpose of protecting the public health and public morals. The society is to be national in its scope of work. Its objects, as defined in its first publication, may be summarised as follows. To obtain and disseminate accurate information concerning practices and conditions of every kind that are dangerous to the public health and morals, and to work for the enlightenment of the public on all matters affecting these objects; to work for the enactment of laws in the United States, territories, and colonial possessions for the protection and preservation of the public health and morals; to assist the constituted authorities in the enforcement of all laws affecting the public health, including those laws for the prevention of quackery, charlatanism, and criminal practices in the healing art, whether by licensed or unlicensed practitioners; the prevention of the adulteration and substitution of drugs and food substances; the prevention of the sale of narcotics, alcohol, and dangerous substances of every kind, whether under the guise of proprietary remedies and so-called patent medicines, nostrums, or whether sold as narcotics in violation of the law; the prevention of the admission to the United States mails of all newspapers and printed matter of every sort advertising any business injurious to the public health or morals, and to prohibit the advertising of such business in any way. The new society numbers among its members many leading physicians, lawyers, clergymen, and philanthropists, and promises to be a power for good.

The Blind and Deaf in the United States.

The late census shows that the number of blind persons in the United States is 64,763, or about one in every 1200 of the total of the population. Of these, 35,745 are totally blind and 29,018 are partially blind. Only one-fifth of the blind over ten years of age are engaged in some gainful occupation. A preponderant share of the blindness is attributed to what are called "social diseases." It is stated that if these diseases were eradicated blindness would almost disappear. The deaf number 89,287, or one in 850 of the general population. Of these, 2272 were also blind and 24,369 were dumb. Of those returned as deaf 55,501 could speak, 9417 could speak imperfectly, and 24,369 could not speak at all. Practically all of the last-named lost their hearing in childhood. Under oral methods of instruction 25 per cent. of those born deaf can speak and 62 per cent. of those who became deaf between the ages of five and ten can speak perfectly. It is believed by experts that if all of the States would provide the means of teaching the oral method while the deaf were still young and in the speech-learning age all who were born deaf or who become deaf early would learn to speak.

Hospital Conference.

The condition of the hospitals of New York is so unsatisfactory that at a conference of hospital authorities it was resolved to appoint a commission to study and report on the following subjects: hospital expenditure, uniform accounting, State inspection and municipal aid, the distribution and classification of hospital beds in relation to the needs of the community, ambulance service, dispensaries, medical organisation and medical education, paying patients, coöperation of hospitals with each other and with other relief agencies, and the treatment of patients in their own homes.

Regulations affecting the Adulteration of Food and Drugs in the United States.

A set of rules and regulations has just been issued in the form of a Circular, No. 21, by the United States Department of Agriculture, bearing the signatures of the Secretary of the Treasury, the Secretary of Agriculture, and the Secretary of Commerce and Labour and framed with a view of insuring uniformity in the enforcement of the new Food and Drugs Act which comes into force on Jan. 1st next. The rules provide that, unless otherwise directed by the Secretary of Agriculture, the methods of analysis employed shall be those prescribed by the Association of Official Agricultural Chemists and the United States Pharmacopœia. A drug bearing a name recognised in the Pharmacopœia or National Formulary without any further statement respecting its character shall be required to conform in strength, quality, and purity

to the standards indicated in those works of authority. But if such a drug is branded to show a different standard of strength, quality, or purity it shall not be regarded as adulterated if it conforms to its declared standard. Factories in which proprietary foods are made shall be at all reasonable times open to inspection and such foods must be labelled with the names and percentages of the materials used. The presence of mineral substances of all kinds in confectionery is forbidden, whether they be poisonous or not, and only harmless colouring and flavouring agents shall be employed in foods. The wholesomeness or otherwise of such additions shall be determined from chemical or other examination by the Secretary of Agriculture. No substance may be mixed with a food product which will reduce its quality or strength and the reduction of a substance to powder in order to conceal inferiority is prohibited. The principal label shall bear the name of the substance, the name of the place of manufacture in the case of food compounds or mixtures, and words which show that articles are compounds, mixtures, or blends. The label must be printed in English in type not smaller than eight-point (brevier) capitals. Particular regulations have been framed affecting the export and import of foods and drugs. Thus, food products intended for export may contain added substances not permitted in foods intended for inter-State commerce when the addition of such substances does not conflict with the laws of the countries to which the food products are to be exported and when such substances are added in accordance with the directions of the foreign purchaser or of his agent. If such products are not exported they shall not be allowed to enter inter-State commerce. Meat and food products imported into the United States must be accompanied by a certificate of official inspection of a character to satisfy the Secretary of Agriculture that they are not dangerous to health, and each package must bear a label of identification.

A Prize for the Best Essay on the Etiology of Epilepsy.

A prize of $500 is offered by the Association for the Study of Epilepsy for the best essay on the etiology of epilepsy. All essays submitted must be in English, written in a clear, legible hand or by the typewriter, on one side of the paper only, they must not contain more than 15,000 words, and must be in the possession of Dr. W. P. Spratling, at Sonyea, N.Y., not later than Sept. 1st, 1907. The name of the person submitting the essay must be put in a sealed envelope bearing the motto which appears at the top of the essay. The essays will be placed in the hands of three physicians, two members of the association for the Study of Epilepsy, and a third a member of the American Neurological Association.

Nov. 19th.

Obituary.

ARTHUR HENRY WEISS CLEMOW, M.D. EDIN., M.R.C.P. LOND.

WE have already announced in our columns the death of Dr. Arthur Henry Weiss Clemow, which occurred in London on Oct. 27th at the comparatively early age of 45 years. The deceased was a well known practitioner in the west of London. His medical education was acquired for the most part at the University of Edinburgh, a portion of the time having been passed at the Liverpool University College School of Medicine and six months at the University of Leipsic, where he had the advantage of working in the laboratory of the late distinguished Professor Cohnheim. During his third year of study he obtained a first-class honours certificate in anatomy and acted as assistant demonstrator of anatomy under Professor (now Sir) William Turner, and a short time prior to graduation he gained the prize for clinical medicine.

He graduated in 1883 and was appointed resident physician to the Edinburgh Royal Infirmary after competitive examination, and as showing the esteem in which he was held by his colleagues was elected President of the Edinburgh Royal Medical Society, having held the office of honorary secretary in the previous year. In 1884 he was elected house surgeon at the Liverpool Royal Infirmary under the late Sir William Banks, and after the usual term of office came to London and was appointed senior medical officer to the Royal Free Hospital, which post he held for nine months. Returning to Liverpool he for a short time practised in Waterloo, near Liverpool, and was honorary medical officer to the Waterloo Dispensary. He took the M.D. Edin. in 1886, receiving special commendation for his thesis. After two years of travel he began practice in West Kensington in 1888, where he soon acquired a very extensive practice in which he was engaged till within a short time of his early death. As showing the energy and perseverance which Dr. Clemow possessed it may be mentioned that he found time, in spite of a large and increasing practice, to obtain the M.R.C.P. Lond., but on taking a partner he was obliged to resign the Membership temporarily; on the entire transfer of his practice the diploma was returned to him shortly before his death. He was a Fellow of the Royal Medical and Chirurgical Society and the Clinical Society, had served as a vice-president of the West London Medico-Chirurgical Society, and was a valuable contributor to medical literature, original articles from his pen having appeared in the Transactions of the Clinical Society, the *British Medical Journal*, the *Medical Press and Circular*, and our own columns.

A friend of Dr. Clemow writes the following appreciation of him: "If poor Clemow had lived he would, I think, have attained a position in his profession which falls to the lot of but few general practitioners. He inspired his patients with confidence and his kind, gentle, sympathetic, and courteous manner endeared him to friends and patients alike, and it was this characteristic, together with the earnestness and thoroughness with which he did his work, which enabled him to build up such an extensive practice in so short a time. One might almost say of Clemow that his love for his profession was the cause of his death, because it was in the year 1903 that he contracted influenza, when instead of going to bed and being nursed he continued to carry on his practice whilst he still had a high temperature, and this, on the top of a frail constitution, was undoubtedly the cause of his contracting pulmonary tuberculosis, which eventually caused his death." The esteem and affection in which Dr. Clemow was held were well evidenced by the number of friends and old patients who attended the funeral service.

Dr. Clemow leaves a widow and one daughter, to whom we offer our sympathy and condolence.

JOHN GREIG MCDOWALL, M.D. EDIN.

BY the death of Dr. J. G. McDowall, at the comparatively early age of 55 years, the West Riding of Yorkshire has lost a most conscientious, capable, and upright officer; his large family of staff and patients, a good and affectionate friend; and his many personal friends, a most loyal and lovable man. After his graduation at Edinburgh in 1873 he had a short experience in Scottish Poor-law work at Craiglockhart, but at an early date he devoted himself to the study of insanity, obtaining an appointment as assistant medical officer at the then new South Yorkshire Asylum at Sheffield, at that time under the superintendency of Dr. Samuel Mitchell. Here his strong individual characteristics soon showed themselves and his work was marked by that careful painstaking conscientiousness which stamped everything that he undertook in later years.

In 1887, after keen competition, he obtained the appointment of medical superintendent of the then new West Riding Asylum at Menston, and that institution in its development and administration is practically a reflection of his mind. During the early years, when the work of organisation was a severe strain, no undertaking was too great and no detail was too small for his energies and attention, and from morning to night and from year's end to year's end his whole object and aim in life was the welfare, good name, and honour of the institution intrusted to his care. As a superintendent he was kind, forbearing, and gentle, and had what Pliny calls the best of all characters—namely, he was ready to pardon the errors of mankind as if he were every day guilty of some himself and, at the same time, as cautious of committing a fault as if he never forgave one. As a man he had a most lovable disposition, was perfectly straightforward, even-tempered, and large-hearted. He leaves behind many to mourn their loss and not least important among them are those amongst whom he lived so many years, his staff and patients.

ROBERT GRIEVE, C.M.G., M.D. GLASG., L.R.C.S. EDIN.

Dr. Robert Grieve, who died recently in his sixty-seventh year at Barton-on-Humber, Lincolnshire, had seen a great deal of medical service in various parts of the world. He received his professional education at the University of

Glasgow where he graduated as M.D. in 1861 and in the same year he also took the diploma of L.R.C.S. Edin. He was at first for a short time an assistant surgeon in the Royal Navy and took part in the operations for the suppression of the Taiping rising in China. In the autumn of 1870 he volunteered his services for the relief of the wounded in the Franco-German war and was attached to a hospital at Darmstadt. For his work there he received the German war medal. About this period the greatest small-pox epidemic of modern times was gathering force in London and Dr. Grieve entered the service of the Metropolitan Asylums Board as medical superintendent of the small-pox hospital at Hampstead. This was on the same site as the existing hospital, but the buildings were temporary structures mainly of wood, such as had been erected for the reception of cases of relapsing fever in 1869. Small-pox patients began to be admitted on Dec. 1st, 1870, and a letter from Dr. Grieve published in our issue of Dec. 24th, p. 907, shows that from Dec. 1st to 20th there were 153 patients received. A paper entitled "An Analysis of 900 Cases of Small-pox" was read by him before the Epidemiological Society and published in THE LANCET of March 18th, 1871, p. 371. The subsequent great extension of the disease may be realised from the fact that the weekly number of deaths from this cause in London during the first six months of 1871 was about 250 and in the week ending May 6th it rose to 288, the total number for the whole year being 7876.[1] Hampstead Hospital, in common with all the small pox hospitals, was very much overcrowded, a condition of things to which we drew attention on various occasions, especially in our issue of May 6th, 1871; the responsibility for this, however, rested on the various boards and local authorities and not in any way on the medical staff. In 1875 Dr Grieve was appointed medical superintendent of the public lunatic asylum at Berbice in British Guiana, and from 1880 to 1885 he edited the *Berbice Asylum Journal*. From 1885 till 1894 he was surgeon general of British Guiana. Since retiring from the colonial service in 1894 with the distinction of C.M.G. he has resided chiefly at Barton-on-Humber.

Medical News.

UNIVERSITY OF CAMBRIDGE.—Mr. H. O. Jones, Clare, has been appointed demonstrator to the Jacksonian Professor of Organic Chemistry.—Mr. F. Horton, St. John's, has been elected Clerk Maxwell student in physics.—At a congregation on Nov. 22nd the following degrees were conferred:—

M.D.—W. J. Fenton, Gonville and Caius.
M.B.—F. F. Leighton, St. John's; H. M. Clarke, Clare.

J. A. Crowther, St. John's, has been re-elected to the research studentship in physics, established by Emmanuel College.—The General Board of Studies propose that in place of the Readership lately vacated by Professor Nuttall, two University lectureships—one in hygiene and one in pathology, with special reference to bacteriology—should be established in connexion with the special board for medicine. Dr. Donald MacAlister has been appointed a member of the State Medicine Syndicate, the Board of Agricultural Studies, the Board of Geographical Studies, and the Appointments Board; Dr. Humphry and Dr. E. Barclay-Smith of the State Medicine Syndicate; Dr. Anderson of the Special Board for Medicine; and Professor A. Macalister of the Board of Anthropological Studies.—At a congregation on Dec. 1st the following degrees were conferred:—

M.D.—R. J. Woolley, Gonville and Caius.
Sc.D. A. Strahan, St. John's.
M.B.—A. H. Miller, Trinity.
M.B. and B.C. A. W. Moore, Emmanuel.

TRINITY COLLEGE, DUBLIN.—At examinations held in Michaelmas term the following candidates passed in the subjects indicated:—

FINAL EXAMINATION IN SURGERY.

John du P. Langrishe, Thomas O. Graham, Cecil T. Conyngham, Richard Connell, Malcolm K. Acheson, Langford V. Hunt, Francis Casement, Francis O'B. Ellison, William Hutcheson, Theodore C. Somerville, Michael P. Leahy, Percy B. Egan, Henry B. Leech, John H. Waterhouse, Herbert J. Wright, George T. Walton, Dudley F. Torrens, and Charles G. Sherlock.

FINAL EXAMINATION IN MIDWIFERY.

William Pearson, Malcolm K. Acheson, Richard G. S. Gregg, Robert E. Wright, George G. Vickery, Henry I. Keane, William S. Thacker, Archibald L. Robinson, Edward C. Stoney, John W. Lane, Frederick Stevenson, John H. Morton, John A. L. Hahn, James C. C. Hogan, Ernest T. Jameson, Langford V. Hunt, Joseph C. A. Ridgway, and Henry P. Hart.

LONGEVITY.—A local newspaper contains a portrait of Mrs. Mary Davies, of Ystradmynach, who on May 24th attained the age of 103 years. She was born at St. Mellons, Cardiff.

SIBERIA'S BACTERIOLOGICAL INSTITUTE.—The *Russky Vratch* says that a short time ago there was opened in Tomsk a substantial (and the only) bacteriological institution in Siberia, called after Sinaidi and Ivana Tchurinich, in connexion with the University of Tomsk. The money was furnished by V. T. Siminu out of funds left to him by the Tchurinichs. Serums will be prepared in the institute, and according to the donor's directions it will serve all Siberia and a portion of its products is to be sent to Kursk gratis for distribution amongst the local needy population. The cost of the building was a little over £8000.

ROYAL INSTITUTION.—Among the lecture arrangements at the Royal Institution before Easter are: Mr. W. Duddell, a Christmas course of six experimentally illustrated lectures on "Signalling to a Distance; from Primitive Man to Radiotelegraphy," adapted to a juvenile auditory. Professor A. C. Seward, two lectures on Survivals from the Past in the Plant World; Professor W. Stirling, six lectures on the Visual Apparatus of Man and Animals; Dr. W. N. Shaw, two lectures on Recent Advances in the Exploration of the Atmosphere; Major P. A. MacMahon, two lectures on the Standards of Weights and Measures; Dr. C. W. Saleeby, two lectures on Biology and Progress; and Professor J. J. Thomson, six lectures on Röntgen, Cathode, and Positive Rays. The Friday evening meetings will commence on Jan. 18th, 1907, when Sir Andrew Noble will deliver a discourse on Fifty Years of Explosives. Succeeding discourses will be given by, among others, Sir Almroth E. Wright, Professor I. Gollancz, Mr. J. J. Lister, Professor D. J. Hamilton, and Professor J. J. Thomson.

CENTRAL MIDWIVES BOARD.—A meeting of the Central Midwives Board was held on Nov. 29th, at Caxton House, Westminster, Dr. F. H. Champneys being in the chair. A letter was considered from the clerk of the Denbighshire county council, forwarding a copy of a resolution passed by the local supervising authority for the county, urging the Board to issue a Welsh translation of the rules and forms. The Board directed that the Denbighshire county council be informed that the Board has no objection to the county council making its own translation of the rules and forms for the information of midwives who are unable to understand English. A letter was considered from a certified midwife as to the payment of a medical man's fees when called in on an emergency. The Board decided that the writer be informed that the Board regrets that it has no power to assist her. A letter was considered from Mr. E. Sergeant, county medical officer of Lancashire, as to cases of puerperal fever occurring in women attended in confinement by midwives. The Board directed that Mr. Sergeant be informed that where proof can be given of failure to carry out the rules referring to notification of illness the local supervising authority can take action by reporting the midwife to the Board under Section 8 (2) of the Midwives Act, 1902. A letter was considered from Dr. J. Middleton Martin, county medical officer of Gloucestershire, as to the keeping of the register of cases prescribed by Rule E 19 (a). The Board directed that Dr. Middleton Martin be informed that the Board is unable to dispense with the keeping of the register of cases as prescribed by Rule E 19 (a). A letter was considered from Dr. H. E. Armstrong, medical officer of health of Newcastle-upon-Tyne, as to the teaching and supervision of uncertified midwives. The Board directed that Dr. Armstrong be informed that the Board, while approving of the suggestions for instructing and supervising uncertified women practising as midwives and for securing notification by them of all births occurring in their practice, has no jurisdiction to deal with this class of woman. A letter was considered from a registered medical practitioner complaining of medical treatment by a certified midwife. The Board

[1] THE LANCET, Feb. 3rd, 1872, p. 167.

directed that the writer be referred to Section 8 (2) of the Midwives Act and to the local supervising authority. A letter was considered from the Marchioness of Winchester, Vice-President of the Hants County Nursing Association, as to the use of the term "suspension." The Board decided that the terms "suspend" and "suspension" having definite technical meanings laid down by the Midwives Act and the rules, the Board is unable to deal with the matter. The adjourned discussion on the rules for inspectors of midwives was resumed and it was finally decided that local supervising authorities having appointed inspectors of midwives be requested to furnish the Board with copies of the rules that have been drawn up for the inspectors' guidance, and that where no rules have been compiled the local supervising authority be asked whether such rules, if drawn up by the Central Midwives Board, would be acceptable.

THE ATTACK UPON DR. P. T. HEBERT.—The daily papers have contained in the course of their long accounts of the sensational crime near Fontainebleau a good many inaccurate assertions as to the victim. Dr. Hebert's name is on the Medical Register, so that the statement that his medical qualifications are questioned seems to us very unlikely; he cannot, on the other hand, be described as a distinguished London physician. The Medical Directory describes him as M.D., C.M. McGill, L.R.C.P. Lond. He appears to hold, or to have held, no hospital or public appointments but to have been an occasional contributor in Canada and in this country to the medical press. In one place he seems to have been confused in the writer's mind with Dr. Alan Herbert, the well-known physician to the British Hospital in Paris—a very unjustifiable error. Dr. Hebert is progressing satisfactorily and his examination before a *juge d'instruction* will soon take place.

THE IRISH MEDICAL SCHOOLS AND GRADUATES' ASSOCIATION.—The members and friends of the Irish Medical Schools and Graduates' Association dined together on Nov. 28th at the Wharncliffe Rooms, Hotel Great Central, Marylebone-road, London, the President of the Association, Dr. E. Irwin Scott, occupying the chair. Covers were laid for over 200 guests and the feature of the evening was the musical entertainment provided in place of the usual after-dinner speeches, for the only toasts were "The King" and "Our Guests," and these were submitted to the company with very brief remarks. The Director-General of the Army Medical Service, Sir Alfred Keogh, gave "Our Guests" and utilised the occasion to thank Dr. James Stewart for his services to the Association. Admiral Sir Edward Seymour responded to the toast and Dr. Stewart also, the latter gentleman expressing his thanks to the Director-general for the kind way in which he had described his connexion with the association.

CHARING CROSS HOSPITAL MEDICAL SCHOOL.—The presentation of scholarships, medals, prizes, and certificates awarded during the winter session 1905-06 and the summer session 1906 to the successful students of the above school took place on Dec. 5th. Sir Arthur Rücker, M.A., D Sc., F.R.S., Principal of the University of London, distributing the awards, while Dr. Amand Routh occupied the chair. In the course of his address the Dean, Dr. Christopher Addison, referred to the past year as having been an eventful one in the history of the medical schools of London. They, like the rest, had a share in its happenings and were glad to report that they found their position had been strengthened. It was gratifying to be able to report that the excellent results obtained by Charing Cross students in the various examinations had been maintained during the past year. Out of some 200 entries there had been an average pass of over 72 per cent. They believed that the progress and prosperity of medicine in this country had been greatly indebted to the existence of the medical schools of London and that the maintenance of their character and vigour was as necessary now as it ever was. For themselves, they were determined to maintain their departments in a high state of efficiency and had good reasons for assuming that they were already reaping the fruits of this resolution, inasmuch as this year they started with their finances in a sound condition, free of debt, and with a very substantial increase in the entries of new students. In his address to the students Sir Arthur Rücker cordially congratulated them on their successes and on the fact of possessing a well-equipped school in which to carry on their studies. He reminded them of the relations of the London University to the medical schools and spoke of the great success which was attending the development of the University under the new *régime*.

FILTHY HOSPITAL ACCOMMODATION IN RUSSIA.—According to the Jewish press in Warsaw the patients in the Jewish hospital are not given either knife or fork, in consequence of which they are obliged to use their fingers to pick up their food. Recently some of the patients categorically demanded knives and forks but it turned out that these had been so long out of use that it was impossible to use them on account of the rust and filth with which they were covered.

MIDDLESEX HOSPITAL DINNER.—It is a proud hospital that reckons among her sons the President of the Royal College of Physicians, the President of the Royal College of Surgeons, and the Dean of the Faculty of Medicine of the University of London. For this reason a congratulatory dinner was given on Dec. 4th at the Café Royal to Sir Richard Douglas Powell, Mr. Henry Morris, and Dr. J. Kingston Fowler by their colleagues of the Middlesex Hospital. Mr. Andrew Clark presided and many members of the Weekly Board were present, among them being Prince Francis of Teck, Lord Cheylesmore, Lord Duncannon, Mr. Gillett, and Mr. Debenham. The dinner was in every way a very happy occasion and a good instance of that friendship and loyalty which are so essential to hospital life.

UNIVERSITY OF OXFORD.—*Degree of D.M.*: In a Congregation held on Nov. 29th the degree of Doctor of Medicine was conferred on H. M. Turnbull, Magdalen College. *Radcliffe Travelling Fellowship.*—An examination for a Radcliffe Travelling Fellowship, of the annual value of £200 and tenable for three years, will be held in Hilary term 1907, commencing on Tuesday, Feb. 26th. The examination will occupy four days. Papers will be set in physiology, pathology, and preventive medicine, and a subject will be proposed for an essay. There will also be a practical examination in pathology. Candidates should send in their names, addresses, and qualifications to the Regius Professor of Medicine, University Museum, on or before Saturday, Feb. 9th, 1907. The conditions of the fellowship are published in the *University Gazette* of Nov. 27th, 1906, p. 197. Competition is no longer restricted to persons who have obtained either a first class in the final schools or a University prize.

SOCIETY OF ARTS.—At the Society of Arts the first ordinary meeting of the present session was held on Nov. 21st, when Sir Steuart Colvin Bayley, K.C.S.I., C.I.E., chairman of the council and formerly lieutenant-governor of Bengal, delivered an address on the Indian Section of the Society. It may be here explained that the work of the society is to some extent divided among several sections, each of which has its special day of the week set apart for meetings. For instance, the meetings of the Colonial Section and the Applied Art Section are held on Tuesday, and those of the Indian Section on Thursday, while the Cantor lectures are delivered on Monday, and the ordinary meetings are held on Wednesday. Sir Steuart Bayley said that the Indian Section, or as it was at first called the Indian Committee, had been in existence since 1869, and that its object was the discussion of subjects connected with the arts, manufactures, and commerce of our Indian empire. He then gave some account of the principal events in the history of the section and of the more prominent individuals who had taken part in its work. Several names of medical men were mentioned from time to time, such as Dr. J. Forbes Watson, Sir Ranald Martin, Sir George Birdwood, and Sir Joseph Fayrer. The proceedings terminated with a vote of thanks, moved by Sir Marcus Samuel and seconded by Sir Owen Roberts.

DONATIONS AND BEQUESTS.—Under the will of the late Miss Lucy Cohen the Institution for the Oral Instruction of the Deaf and Dumb, Fitzroy-square, will receive £1000; Hospital for Sick Children, Great Ormond-street, £500; Brompton Hospital for Consumption, £200; London Hospital, £250; Middlesex Hospital, for the cancer wards, £1000; the Ventnor Cottage Hospital, £500; and Messrs. N. M. Rothschild and Sons, £50,000 upon trust to apply a sufficient sum in keeping up the Sarah Louise Convalescent Home, the residue of the income to be devoted towards the support of, or in making donations to, such Jewish charities or charitable objects and such Christian charities and charitable objects,

preferably hospitals and convalescent homes, as they shall see fit.—By the will of the late Mr. Henry Norris each of the following institutions will receive £500, viz.: the Westminster Hospital, London Hospital, Guy's Hospital, King's College Hospital, Charing Cross Hospital, St. Thomas's Hospital, Royal Free Hospital, Hospital for Sick Children, Great Ormond-street; Royal Hospital for Diseases of the Chest, City-road; Royal Hospital for Consumption and Diseases of the Chest, Brompton; National Hospital for the Paralysed and Epileptic; Royal Hospital for Incurables at Putney; Belgrave Hospital for Children, Gloucester-street, Pimlico; Victoria Hospital, Radnor-place, Folkestone; St. Andrew's Convalescent Home, Folkestone; All Saints' Convalescent Home, Eastbourne; and Surgical Aid Society, London.

FESTIVAL DINNER AT THE ROYAL FREE HOSPITAL.—The seventy-eighth anniversary of the Royal Free Hospital was celebrated by a festival dinner, which was held on Nov. 28th at the Hotel Cecil. His Royal Highness the Duke of Connaught presided and about 170 were present. The Duke of Connaught, in proposing "Prosperity to the Royal Free Hospital," referred to the fact that from the foundation of the hospital in 1828 all cases had been admitted without letters of recommendation, and up to the present more than three million patients had been treated as in-patients and out-patients. The Royal Free Hospital was the first institution to admit women as medical students and the results had been very successful. He himself had seen medical women at work in the colonies, and especially in India, where their kindly Christian feelings and medical knowledge had been of the greatest advantage and had done more than anything else to attach that country to England. The Royal Free Hospital was very economically managed, yet it had great difficulty in paying its way. The treasurer, Mr. C. Burt, mentioned that £7424 had been collected in connexion with the dinner. Dr. J. Walter Carr, who responded to the toast of "The Medical Staff," said that the great increase in the cost of the management of hospitals was evitable; the medical staff were sometimes held responsible for it but they were bound to do all they could to insure the adoption of the latest methods of diagnosis and treatment for the benefit of the patients. If ever the staff should cease to ask for improvements in the hospital it would be a proof that they had become effete. As a sign, however, that the medical staff were anxious to do all they could to reduce expenditure whenever possible, he might mention that in 1875 the alcohol bill of the hospital amounted to £372, while last year it was only £55. A very important part of the work of the hospital was the training of women medical students, and it was of great importance because of the good done in many Eastern lands by the ministrations of medical women, who acted many times as the pioneers of civilisation and of Christianity.

Parliamentary Intelligence.

HOUSE OF COMMONS.

MONDAY, DEC. 3RD.

Ambulance Arrangements of the Metropolis.

Sir WILLIAM J. COLLINS asked the Secretary of State for the Home Department what action he intended to take with a view to provide a better ambulance service for street accidents in London.—Mr. GLADSTONE answered: I am about to appoint a small committee to inquire into the ambulance arrangements of the metropolis, and my honourable friend has, I am glad to say, consented to give his assistance in the inquiry by becoming a member of the committee.

A Rural District Council and its Medical Officer.

Mr. ROGERS asked the President of the Local Government Board whether the Board received a letter from the Pewsey rural district council respecting its medical officer of health, and asking for an interview, dated Dec. 11th, 1905; whether he would explain why this letter remained unanswered until August 31st, 1906, an interval of over eight months; whether the Local Government Board received another letter on the same subject from the rural district council dated Sept. 3rd, 1906, which letter had not yet been answered after an interval o three months; whether the Board would reconsider its refusal to receive a deputation on the subject of the medical officer's salary; and, if so, when the rural district council might expect to receive any communication from the Board.—Mr. BURNS replied: This particular case stood over as some general questions affecting the subject to which it relates were under consideration. The Local Government Board has, however, consented to the interview desired, and it is proposed that it should take place this week.

Revaccinations.

Mr. LUPTON asked the President of the Local Government Board whether his attention had been called to the statement in the Blue-book on Vaccination Expenses that in the four years ended Lady Day, 1903, there were 1,168,058 revaccinations charged to the rates, and whether he would state under what statute the rates could be charged with revaccination, except in the case of voluntary applications for revaccination; whether he had any official information showing that the bulk of these revaccinations were of persons who did not voluntarily apply for revaccination but were compelled to do so by their employers on pain of dismissal; and whether the auditors of the Local Government Board had surcharged the guardians with any portion of the amount paid for these revaccinations.—Mr. BURNS answered: I am aware of the number of revaccinations the cost of which was charged to the rates in the period referred to. I have no information to show that the bulk of these revaccinations were of persons who did not voluntarily apply for revaccination, nor do I know of any surcharges made on the ground that any of the applications were not voluntary. It is the duty of the public vaccinator to revaccinate any person applying to him for the purpose who is not less than ten years old and has not been primarily vaccinated within ten years; and subject to the observance of certain conditions which do not affect the present matter he is entitled under Section 8 of the Vaccination Act, 1867, as amended by later Acts, to be paid for these revaccinations out of the rates. Whether the applications made to him are voluntary or not seems to be immaterial.

Race Suicide.

Mr. WEDGWOOD asked the Chancellor of the Exchequer whether his attention had been drawn to Mr. Sidney Webb's inquiries and conclusions as to race suicide, and whether he would consider the propriety of embodying in any future graduation of the Income-tax rebates dependent on the number of children in a family.—Mr. ASQUITH replied: I have read Mr. Webb's interesting papers, though, I confess, without realising their bearing upon the graduation of the Income-tax. But in the consideration which I am giving to the subject I will not lose sight of my honourable friend's suggestion, which would, however, amount to a revival of the *Lex Papia Poppæa*.

Dr. HAZEL: Can the right honourable gentleman tell us the date of the next *Lex Papia Poppæa*?—Mr. ASQUITH: I must have notice of that.

BOOKS, ETC., RECEIVED.

BAILLIÈRE, TINDALL, AND COX, 8, Henrietta-street, Covent Garden, London, W.C.

Notes on Blood-Serum Therapy, Preventive Inoculation, and Toxin and Serum Diagnosis For Veterinary Practitioners and Students. By Walter Jowett, F.R.C.V.S., D.V.H., Formerly Demonstrator of Comparative Pathology and Bacteriology in the University of Liverpool. Price 5s. net.

BLACK, A. AND C., Soho-square, London.

Who's Who. 1907. Price 10s. net.
Who's Who Year-book. 1907. Price 1s. net.

CHURCHILL, J. AND A., 7, Great Marlborough-street, London, W.

Transactions of the Ophthalmological Society of the United Kingdom. Vol. XXVI. Session 1905-1906. With List of Officers, Members, &c. Price 12s. 6d. net.

F. A. DAVIS COMPANY, 1914-16, Cherry-street, Philadelphia, Pa., U.S.A.

Genito-Urinary Diseases and Syphilis. By Henry H. Morton, M.D., Clinical Professor of Genito-Urinary Diseases in the Long Island College Hospital; Genito-Urinary Surgeon to the Long Island and King's County Hospitals and the Polhemus Memorial Clinic. Second edition, revised and enlarged. Price $3.00 net.

FROWDE, HENRY, Oxford University Press, London, New York, and Toronto.

The Poems of Matthew Arnold. 1849-1864. (With an Introduction by A. T. Quiller-Couch. The World's Classics. LXXXV.) Price 1s. net.

The Rise of the Dutch Republic. A History. By John Lothrop Motley. With an Introduction by Clement Shorter. In three volumes. (The World's Classics, Numbers XCVI., XCVII., and XCVIII.) Price, cloth, 1s. net each volume.

Essays and Sketches. By Leigh Hunt. Chosen and edited with an Introduction by R. Brimley Johnson. (The World's Classics, No. CXV.) Price, cloth, 1s. net.

Aeschylus. The Seven Plays in English Verse. By Lewis Campbell, M.A., Hon. LL.D., Hon. D.Litt., Emeritus Professor of Greek in the University of St. Andrews, Hon. Fellow of Balliol College, Oxford. New edition, revised. (The World's Classics, No. CXVII.) Price, cloth, 1s. net.

GRÄFE, LUCAS, AND SILLEM (EDMUND SILLEM), Hamburg.

Fortschritte auf dem Gebiete der Röntgenstrahlen. Herausgeber: Dr. Albers-Schönberg. Ergänzungsband 13. Archiv und Atlas der Normalen und Pathologischen Anatomie in Typischen Röntgen-bildern. Die Entwickelung der Knöchernen Wirbelsäule. Von Dr. Béla Alexander, Késmárk (Ungarn). Price M.20.

HADDEN, BEST, AND CO., 5, West Harding-street, London, E.C.

Hadden's Pocket Vocabulary of Medical Terms (with their Pronunciation). By Henry Payne, M.D., M.R.C.S., L.S.A., Resident Medical Officer of the District Infirmary, Ashton-under-Lyne. Fourth edition. Revised and enlarged by Philip Cowen, M.D. Durh., D.P.H. Camb., and Herbert Davey, of the Middle Temple, Barrister-at-Law. Price not stated.

HEINEMANN, WILLIAM, 21, Bedford-street, London, W.C.

The New Hygiene. Three Lectures on the Prevention of Infectious Diseases. By Elie Metchnikoff. With a Preface by E. Ray Lankester. Price 2s. 6d.

KIMPTON, HENRY, 13, Furnival-street, Holborn, London, E.C. (STENHOUSE, A., University-avenue, Hillhead, Glasgow.)

The Borough of St. Marylebone Health Society's Lecture Series. No. 1. Infant Education. By Eric Pritchard, M.A., M.D. Oxon., M.R.C.P. Lond., Consulting Physician to the Barnet Home Hospital for Children; Senior Physician to the St. Marylebone General Dispensary. With a Preface by Alex. Wynter Blyth, M.R.C.S., Medical Officer of Health for the Borough of St. Marylebone. Price 2s. net.

KING, P. S., AND SON, Orchard House, Westminster, S.W.

Vagrancy. Being a Review of the Report of the Departmental Committee on Vagrancy (1906), with Answers to Certain Criticisms. By Sir William Chance, Bart., J.P., and C.C. for Surrey, a Member of the Departmental Committee. Price 6d. net.

Appointments.

Successful applicants for Vacancies, Secretaries of Public Institutions, and others possessing information suitable for this column, are invited to forward to THE LANCET Office, directed to the Sub-Editor, not later than 9 o'clock on the Thursday morning of each week, such information for gratuitous publication.

CODD, J. A., M.D. Lond., has been appointed Certifying Surgeon, under the Factory and Workshop Act for the Wolverhampton District of the county of Stafford.

CUNLIFFE, E. N., M.D., Ch.B. Vict., M.B., B.S. Lond., has been appointed Honorary Assistant Physician to the Manchester Royal Infirmary.

DAVIS, WILLIAM HENRY, L.R.C.P. Lond., M.R.C.S., has been appointed Medical Officer for the Fourth District by the Devonport Board of Guardians.

GREEN, E. F. S., M.D. Glasg., has been appointed House Physician at the Royal Infirmary, Manchester.

KEMBLE, A. C., L.R.C.P. & S. Edin., has been appointed House Surgeon at the Eccles and Patricroft Hospital.

LANDER, CHARLES LLEWELLYN, B.Sc., M.B., B.S. Lond., L.R.C.P. Lond., M.R.C.S., has been appointed Honorary Assistant Surgeon to the Royal Albert Hospital, Devonport.

LEAH, THOMAS NOY, M.B., B.S. Lond., L.R.C.P. Lond., M.R.C.S., has been appointed Honorary Surgeon to the Royal Albert Hospital, Devonport.

MICHELL, JOHN CHARLES, M.R.C.S., L.S.A., has been appointed Medical Officer and Public Vaccinator for the Fourth District by the Chipping Sodbury (Gloucestershire) Board of Guardians.

MORGAN, FREDERICK CHARLES, L.R.C.P. Lond., M.R.C.S., has been re-appointed Resident Medical Officer at the Eastville Workhouse by the Bristol Board of Guardians (for three years).

MOXON, F. H., M.B. Durh., has been appointed Assistant House Surgeon at the Gloucester General Infirmary and Eye Institution.

PRICE, FLORENCE, M.S., M.B., B.S. Edin., has been re-appointed House Physician at the Swansea Hospital.

REYNOLDS, ERNEST, M.D. Lond., has been appointed Honorary Physician to the Royal Infirmary, Manchester.

ROLSTON, THOMAS RESTARICK, L.R.C.P. Lond., M.R.C.S., has been appointed Surgeon to the Provident Dispensary in connexion with the Royal Albert Hospital, Devonport.

SANDFORD, GEORGE CALROW, M.D., C.M. Edin., has been appointed Medical Officer to the Workhouse by the Devonport Board of Guardians.

SUTHERLAND, D. P., M.B., B.S. Lond., has been appointed House Physician at the Royal Infirmary, Manchester.

THOMAS CYRIL NELSON, B.A., M.B., B.C. Cantab., has been appointed Surgeon to the Midland Railway Company at Lydney (Gloucestershire).

Vacancies.

For further information regarding each vacancy reference should be made to the advertisement (see Index).

BRENTFORD UNION.—Medical Officer and Public Vaccinator. Salary £160 per annum and fees.

BRIGHTON, ROYAL ALEXANDRA HOSPITAL FOR SICK CHILDREN, Dyke-road.—House Surgeon. Salary £80, with board, lodging, and washing.

BURLEY-IN-WHARFEDALE, SCALEBOR PARK PRIVATE ASYLUM.—Assistant Medical Officer, unmarried. Salary £150 per annum, with board, apartments, attendance, &c.

CARDIFF INFIRMARY.—Resident Medical Officer. Salary £120 per annum with board, washing, and apartments. Also House Physician. Salary at rate of £60 per annum, with board, washing, and apartments.

GLOUCESTER, GENERAL INFIRMARY AND EYE INSTITUTION.—House Surgeoncy. Salary £100 per annum, with residence, board, and washing.

INDIAN MEDICAL SERVICE, India Office, London.—Examination for not less than 18 Commissions.

IPSWICH, EAST SUFFOLK AND IPSWICH HOSPITAL.—Third House Surgeon. Salary £50 per annum, with board, washing, and residence.

KENSINGTON GENERAL HOSPITAL, Earl's Court, London, S.W.—Junior Resident Medical Officer. Salary £40 per annum, with board, washing, and residence.

LEAMINGTON, WARNEFORD HOSPITAL.—House Physician. Salary £60 per annum, with board, washing, and apartments.

LIVERPOOL, BROWNLOW HILL WORKHOUSE.—Assistant Medical Officer. Salary £80 per annum, with rations and residence.

LIVERPOOL ROYAL INFIRMARY.—Assistant Honorary Physician.

LONDON HOSPITAL, Whitechapel, E.—Assistant Physician.

MANCHESTER, ST. MARY'S HOSPITALS FOR WOMEN AND CHILDREN.—House Surgeon for six months. Honorarium of £25 and board and residence.

MIDDLESEX HOSPITAL.—Medical Officer and Registrar to the Cancer Department. Salary £100 per annum, and board and residence.

MILLER HOSPITAL AND ROYAL KENT DISPENSARY, Greenwich-road, S.E.—Honorary Physician to Out-patients.

NATIONAL HOSPITAL FOR THE PARALYSED AND EPILEPTIC, Queen-square, W.C.—House Physician. Salary £50 per annum, with board and residence.

NEWCASTLE-UPON-TYNE WORKHOUSE AND HOSPITAL.—Assistant Medical Officer, unmarried. Salary at rate of £150 per annum, with apartments, rations, and washing.

PLAISTOW FEVER HOSPITAL, London, E.—Junior Assistant Medical Officer. Salary at rate of £100 per annum, with all found.

ROYAL FREE HOSPITAL, Gray's Inn-road.—Surgical Registrar, Assistant Anæsthetist, Clinical Assistants, also Junior Obstetric Assistant (all females).

ROYAL WATERLOO HOSPITAL FOR CHILDREN AND WOMEN, S.E.—Junior Resident Medical Officer. Salary at rate of £40 per annum, with board and washing.

ST. PANCRAS INFIRMARY (NORTH), Dartmouth Park-hill, N.—Junior Assistant Medical Superintendent. Salary £75, with apartments, rations, and washing.

SALFORD ROYAL HOSPITAL.—Senior House Surgeon, House Physician, Accident House Surgeon, and Junior House Surgeon, all for six months. Salaries at rate of £100, £90, £60, and £50 per annum respectively, with board and residence.

SHEFFIELD FEVER HOSPITALS.—Junior, Assistant Medical Officer. Salary £120 per annum, with board, lodging, and washing.

SHEFFIELD ROYAL HOSPITAL.—Assistant House Physician, unmarried. Salary £50 per annum, with board, lodging, and washing.

STOCKPORT INFIRMARY.—Junior Assistant House Surgeon for six months. Salary at rate of £40 per annum, with board, washing, and residence.

TOTTENHAM HOSPITAL, London, N.—Two Honorary Assistant Physicians. Also Pathologist. Honorarium £30 per annum.

WEST LONDON HOSPITAL, Hammersmith-road, W.—House Physician for six months. Board, lodging, and laundry allowance.

WOLVERHAMPTON AND MIDLAND COUNTIES EYE INFIRMARY.—House Surgeon. Terms £70 per annum, with rooms, board, and washing.

YORKSHIRE, COUNTY COUNCILS OF THE EAST AND WEST RIDINGS.—Bacteriologist to carry out investigation of Milk-supply. Remuneration £250 and out-of-pocket expenses.

THE Chief Inspector of Factories, Home Office, S.W., gives notice of a vacancy as Certifying Surgeon under the Factory and Workshop Act at Milnthorpe, in the county of Westmorland.

Births, Marriages, and Deaths.

BIRTHS.

AUBREY.—On Nov. 28th, at Bitton, Bristol, the wife of Thomas Aubrey, M.B. Lond., of a son.

MARSHALL.—On Dec. 1st, at St. John's House, Lechlade, Gloucestershire, the wife of Thomas Bingham Marshall, M.R.C.S., L.R.C.P., of a son.

PIKE.—On Dec. 1st at Cromwell-crescent, S.W., the wife of Douglas Pike, M.A., M.B., B.Ch., of a son.

ROSS.—On Nov. 27th, at Grange House, Burslem, Staffordshire, the wife of W. Livingston Ross, L.R.C.S. & P. Irel., of a daughter.

SELBY.—On Nov. 27th, at The Rock, Frodsham, Cheshire, the wife of T. J. Selby, M.B., of a son.

STEWART.—On Nov. 23rd, at The Gothics, East Bergholt, the wife of Bernard H. Stewart, B.A., B.C. Cantab., of a son.

MARRIAGES.

ANDERSON—COOKES.—On Nov. 28th, at All Saints' Church, Dulwich, Lewis Anderson, M.B., Ch.B., to Mabel Alice, youngest daughter of the late John Measures Cookes of Leamington, and of Mrs. Cookes.

MORLEY—HARRIS.—On the 4th inst., at the West London Synagogue, Upper Berkeley-street, by the father of the bride and the Rev. Morris Joseph, Arthur S. Morley, F.R.C.S., of 29, Gower street, third son of Alexander Morley, Esq., of 25, Craven Hill-gardens, to Phœbe, elder daughter of the Rev. Isidore Harris, M.A., of 50, Norfolk-square.

DEATHS.

GRIEVE.—At New Hall, Barton-on-Humber, Lincolnshire, on the 15th November, Robert Grieve, M.D., C.M.G., late Surgeon-General of British Guiana.

HUMPHRY.—On the 3rd instant, at his residence, Warren Gate, Crowborough Beacon, Sussex, Frederick Abell Humphry, F.R.C.S. (late of Marine Parade, Brighton), aged 76. Funeral at Hove Cemetery at 1 o'clock, on Thursday. No flowers by request. Friends please accept this, the only, intimation.

LEWIS.—On Dec. 2nd, at Willingham, Cambs, Robert Travers Lewis, M.B., B.Ch. Dub., aged 47 years.

MARTIN.—On Nov. 30th, at 15, Victoria-place, Eastbourne, Lawrence, the dearly loved Boy of Dr. and Mrs. A. A. Martin, aged 2½ years.

ROBERTS.—On the 29th ult., at Broadstairs, after a short but painful illness, Dr. John Coryton Roberts, L.R.C.P., M.R.C.S., L.M., of Avenue House, Peckham Rye, aged 65 years.

STEELE.—On Dec. 1st, at Woodhouse, St. Mary Church, Devon, William Stott Steele, M.D., aged 79 years.

N.B.—A fee of 1s. is charged for the insertion of Notices of Births, Marriages, and Deaths.

Notes, Short Comments, and Answers to Correspondents.

THE PULVERMACHER INSTITUTE.

BETWEEN 50 and 60 years ago Dr. Pulvermacher of Vienna invented an ingenious modification of the old voltaic pile which was found useful as a source of electricity. It consisted, broadly speaking, of a number of small voltaic piles joined up in series and the object of the inventor was to provide medical men with a cleanly and trustworthy source of electrical energy which should be portable and which they could apply to their patients or which the patient could use himself under their direction without the necessity of carrying about a cumbrous apparatus composed of some form of large wet cell. The apparatus was submitted to us and in 1856 we commented favourably upon it. The Pulvermacher Institute, however, as at present constituted, though it undoubtedly uses the apparatus invented by Dr. Pulvermacher, has developed into the ordinary electrical quack establishment. We do not deny that the apparatus which it sells is effective, for it undoubtedly is effective if properly applied, but what we do object to are the advertisements of the Institute which are couched in exactly the same language as other quack literature. There are the usual statements about pouring "the life-giving stream of gentle vivifying electricity." There is the usual pamphlet of important facts for men only, containing all the twaddle and lies about spermatorrhœa, upon which every quack has traded for years past. Mixed up with this, as is the way of the electrical quack in all countries, are extracts from genuine medical works concerning the beneficial powers of electricity, and among these are our own statements as to Dr. Pulvermacher's apparatus. Having received various inquiries from correspondents as to whether it was really our wish that our name should be used in connexion with such blatant quackery as the Pulvermacher Institute now publishes we paid a visit to the institute. We were received very politely and were shown the Pulvermacher chain and a modification of it called the Pulvermacher belt. The assistant whom we saw at first candidly confessed that he did not know much about the apparatus but referred us to the manager. The manager, who informed us that he had been connected with the institute for some 30 years, expatiated upon the value of the chain, but when we asked him how much electricity the chain was capable of producing he replied that it gave one volt per element. When we pointed out that a volt was the unit of pressure and not of quantity he tried to hide his ignorance by going off into side issues, and finally, after a great deal of "hedging," said that he had really never gone into the subject of how many ampères the belt was capable of giving. He had never been asked the question before and, in fact, he appeared to be perfectly ignorant of any facts about electricity or its medical application except the deceptive statements contained in the pamphlet.

While admitting the fact that the Pulvermacher chain can produce a current of electricity, it is extremely unlikely that when applied in the way that obtains when a belt is worn any good can result. The electrodes are so small and unless kept so wet as to be uncomfortable to wear the resistance will be so high as practically to prevent any flow of electricity at all. Again, it is well known that the current density is greatest in a direct line between the positive and negative electrodes, but if one electrode is placed over a bony part, such as the sacrum, a great diffusion of current takes place, owing to the relatively higher resistance of bony tissue; and it is impossible for such a contrivance to pass sufficient current through any particular part so as to modify its functions in any way. Sufficient current to do this through the electrodes as supplied in the Pulvermacher belt would cause severe blistering in a few minutes and would be more than such a chain battery would be capable of producing.

With regard to what are described in their illustrated price list as "new improved dry combined bands," it is very difficult to see how such a contrivance can produce any appreciable amount of electricity, and that this is true is shown by the fact that small *bare metal* electrodes are the means by which the supposed current is conveyed to the body. Very small currents are capable of producing severe blistering in such circumstances, but we were told that complaints on this score were very uncommon. These bands are intended to be wound round various parts of the body or placed along the sternum for "difficulty of breathing, weakness of chest or lungs," or along the spine for "spinal weakness and nervous exhaustion," and so on. It is not necessary to enlarge on the absolute worthlessness of such devices. Any supposed effect they may produce must be in the nature of suggestion. The galvanic chain, on the other hand, is merely a modification of the voltaic pile, and, like any other battery or other source of continuous current, can only be of use in the treatment of diseased conditions when employed by persons specially trained in electrical applications.

The pamphlet issued by this firm, entitled "Important Facts for Men Only," is one of a class the circulation of which ought to be prohibited. Under a guise of extreme respectability and scientific knowledge, this pamphlet deals with sexual disorders, real or imaginary, in a way that tends to work on the feelings and ignorance of those who read it and to provoke attention to matters that in the great majority of cases are better left alone. It contains numerous quotations from the writings of well-known authorities on medical electricity in America and on the continent but none from British authors, as well as some testimonials from medical men and quotations are given which are stated to be from "THE LANCET, vol. ii., xvii." This we find to be part of an article which appeared on Oct. 25th, 1851, pp 388 and 389—55 years ago. These quotations are very cleverly chosen and trimmed so as to convey the idea that these appliances are all that the promoters claim for them, quite ignoring the fact that these articles were written by medical men for medical men and did *not* say that the appliances would be equally valuable in the hands of any lay person who chose to buy them. This we consider to be a very glaring example of the misuse of quotation.

LIFE AND HEALTH ASSURANCE ASSOCIATION AND MEDICAL APPOINTMENTS.

To the Editors of THE LANCET.

SIRS,—I have read a letter in THE LANCET of Nov. 24th, p. 1487, signed by Dr. J. A. B. Hammond of Shanklin and I am writing to say that I also was called upon by the man Robins as representative of the insurance company in question who told me the same tale as he did Dr. Hammond. I have been treated in exactly the same manner and even yet have been unable to secure a return of my cheque for £10, although the head office in Edinburgh, and also the London branch, are fully aware of all the circumstances. My solicitor has the matter in hand with instructions to bring the matter into court. I feel that the members of the profession should be made aware of the methods pursued by this office as it is certain that others of us must have been approached in the same manner.

I am, Sirs, yours faithfully,
JOHN WATSON, M.D. Durh., F.R.C.S. Edin.

Newbury, Dec. 1st, 1906.

"HIS OPPONENT."

We recently received a letter from a medical man asking whether on taking up practice in a town he should call upon "his opponent" or await a call from that gentleman, or consider friendly relations between them unnecessary. We are often asked these questions, though it is not usual to emphasise the acerbity that sometimes exists between rival practitioners quite so frankly. There seem in the medical profession to be no longer any rules of guidance in this matter. Formerly the new-comer called upon the older professional residents; and if he does so now he will be following a well established and, we think, proper custom, but if he neglects to do so he cannot, we think, be blamed for discourtesy. Nor can he consider his rivals discourteous if no call is made by them upon him. It is in every way advisable that medical men residing in the same town should be on friendly terms one with another. There is a vast difference between honourable rivalry and acute opposition.

"THOUGHT-READING."

To the Editors of THE LANCET.

SIRS,—With reference to your note in THE LANCET of Nov. 3rd last (p. 1259) on "Thought-reading" at the Alhambra, which greatly interested me, perhaps you may care to learn that I saw yesterday (Tuesday, Dec. 4th) at the corner of Ruskin-avenue, East Ham, a similar mystifying performance conducted by a couple who give the name of "Professor Rowland and Madame Howe." Madame Howe stood blindfold in the centre of a large crowd and "Professor Rowland" walked around the ring asking for any articles to be handed to him by the public and then the lady correctly and instantaneously described the articles, often in detail, giving the contents of parcels, such as corsets, fish, cups, and so on, actually giving the prices which people had paid for them. She quickly gave the initials and names on visiting cards, the dates of coins, the page of a book where a man had left off reading, described rings, and in one case actually said that the man had had it given to him when he was 21, which was not denied. According to an old printed bill which was given to me the couple gave a performance at Ilford Town Hall last October The bill is headed "Madam Myato (late of St. James's Hall and Crystal Palace Concerts), in her extraordinary Exhibition of Mental Wireless Telegraphy." To me it was certainly extraordinary and I could detect no code or collusion, and if it were counterfeit then I must admit I could not tell the difference. Professor Rowland's address, which he gave to me and permitted me to publish if I could obtain publication, is 8, Brandon-grove, Ilford Hill, Ilford. The offer in the *Daily Mail* of last Monday of a £500 challenge to thought-readers (especially, I believe, to Mr. and Mrs. Zanzic) has aroused renewed interest in such performances.

I am, Sirs, yours faithfully,
THEOCLYMENUS.

A CURIOUS SYMPTOM.

CAN any of our readers suggest a diagnosis in a case which has been submitted to our consideration?

The patient, aged 50 years, apparently in good health, eats and sleeps well. About three years ago he had slight hæmorrhage from the lungs, which entirely disappeared after two or three months open-air treatment and has not since recurred, although the patient has had two very severe colds with excessive coughing. There is no albuminuria and all the reflexes are apparently normal. Although his life is a

sedentary one he can do a good amount of walking *provided he walks fast*, but if he walks slowly he is utterly exhausted within ten minutes. He can do a long day's work, sitting most of the time or moving about in his office, without excessive fatigue, but if he stands for even two minutes a curious sensation, not painful, of exhaustion begins to be felt in the lumbar region, and if the standing is prolonged his legs will tremble and he has to sit down or collapse. If he is compelled to stand in the early part of the day until this feeling comes on, even if he takes a long rest immediately afterwards, the feeling of powerlessness and exhaustion occasioned by the standing does not wear off until he retires to bed. The patient avers that there is no question of suggestion about the condition. He is a busy man who, when he throws himself into his work, forgets everything else. If his work leads him to stand he does so until the sensation described reminds him of his weakness and he has to sit down. There is no pain or unpleasant sensation on pressing or tapping the lumbar region.

LOATHSOME BED-STUFFING.

WE notice with regret the reply of the President of the Local Government Board to a question asked by Mr. Lyulph Stanley in the House of Commons last week as to whether it was the intention of his department, either by legislation or otherwise, to prohibit the use of rag-flock in the making of bedding without first subjecting it to some cleansing and disinfecting process. Mr. Burns said that the compulsory cleansing of rag-flock could not be generally secured under the existing law. He was not at present in a position, he added, to promise legislation on the subject but the point has been noted for consideration when a suitable opportunity offers. We have frequently called attention to this matter, and it seems to us extraordinary that there is no section of our administration which is able at once to deal with this evil. That the evil exists there cannot be the shadow of a doubt and we have referred to evidence on this point which we believe to be true. Quite recently we received a communication from Mr. J. O. Neumann on this subject who has had abundant ocular demonstration of the filthiness of the flock used for stuffing beds, not the slightest attempt having been made to cleanse, not to say to disinfect, it. "These rags," he writes, "come from the dustbin, the ragshops, the gutters, and the corners of dilapidated buildings all over England. In going through a factory one sees floor after floor packed with bundles of garments, so dirty that even the ragpickers themselves will not touch them except with the end of a long pole. The stench arising from them is so bad that one proprietor admitted that he would be unable to keep a sufficient number of workmen were it not for the occasional finds of coin which are made even in these well-searched refuse heaps. I saw heaps of rags torn from the floors of railway carriages full of indescribable filth. In another corner were some 20 tons of old corsets which had just emerged from the process of being stripped from the whalebone, and were now ready to be made into bedding. Near by lay old greasy fragments of cotton and satin. Another floor was given up to children's garments, old caps and bonnets, curtains and carpets. All these odds and ends are torn into a fine fluffy material by machinery that is so coarse as to allow all but the heaviest atoms of dust and grit to remain in it. Washing would cost £2 per ton extra, and one-third of the dearly-bought rubbish would disappear in the process." And this is the stuff which people take their repose upon, its evil smell disguised by the application of an oil and its dirt and filth held together by the same agency. It is hardly possible to understand why, with our admirably equipped sanitary administration, this evil and menace to health should escape scotching.

R. H.—We do not know any publication dealing with the successfully *commercial* way of carrying out the pasteurisation or sterilisation of milk. THE LANCET has published a good many articles from time to time on the *modus operandi* adopted at municipal milk depots. Possibly our correspondent could get some useful information from one of these depots.

Nephritis.—From our correspondent's account of the case the advice that the child should be removed to the local hospital seems to have been sound. We cannot conceive of any difficulty arising over the death certificate in case of the suggested misfortune.

COMMUNICATIONS not noticed in our present issue will receive attention in our next.

METEOROLOGICAL READINGS.

(Taken daily at 8.30 a.m. by Steward's Instruments.)

THE LANCET Office, Dec. 6th, 1906.

Date.	Barometer reduced to Sea Level and 32° F.	Direction of Wind.	Rainfall.	Solar Radiation in Vacuo.	Maximum Temp. Shade.	Min. Temp.	Wet Bulb.	Dry Bulb.	Remarks.
Nov. 30	29·806	W.	...	59	55	53	52	54	Raining
Dec. 1	29·920	N.	0·08	73	46	41	40	43	Fine
" 2	30·260	S.W.	...	55	53	37	45	47	Overcast
" 3	29·930	W.	...	65	55	47	50	52	Raining
" 4	30·046	W.	0·02	60	56	49	49	52	Overcast
" 5	29·638	W.	...	60	49	48	45	49	Fine
" 6	29·736	N.E.	0·12	60	45	30	39	41	Fine

Medical Diary for the ensuing Week.

OPERATIONS.

METROPOLITAN HOSPITALS.

MONDAY (10th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), St. George's (2 P.M.), St. Mary's (2.30 P.M.), Middlesex (1.30 P.M.), Westminster (2 P.M.), Chelsea (2 P.M.), Samaritan (Gynæcological, by Physicians, 2 P.M.), Soho-square (2 P.M.), City Orthopædic (4 P.M.), Gt. Northern Central (2.30 P.M.), West London (2.30 P.M.), London Throat (9.30 A.M.), Royal Free (2 P.M.), Guy's (1.30 P.M.), Children, Gt. Ormond street (3 P.M.).

TUESDAY (11th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), Guy's (1.30 P.M.), Middlesex (1.30 P.M.), Westminster (2 P.M.), West London (2.30 P.M.), University College (2 P.M.), St. George's (1 P.M.), St. Mary's (1 P.M.), St. Mark's (2.30 P.M.), Cancer (2 P.M.), Metropolitan (2.30 P.M.), London Throat (9.30 A.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Throat, Golden-square (9.30 A.M.), Soho-square (2 P.M.), Chelsea (2 P.M.), Central London Throat and Ear (2 P.M.), Children, Gt. Ormond-street (2 P.M., Ophthalmic, 2.15 P.M.).

WEDNESDAY (12th).—St. Bartholomew's (1.30 P.M.), University College (2 P.M.), Royal Free (2 P.M.), Middlesex (1.30 P.M.), Charing Cross (3 P.M.), St. Thomas's (2 P.M.), London (2 P.M.), King's College (2 P.M.), St. George's (Ophthalmic, 1 P.M.), St. Mary's (2 P.M.), National Orthopædic (10 A.M.), St. Peter's (2 P.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Gt. Northern Central (2.30 P.M.), Westminster (2 P.M.), Metropolitan (2.30 P.M.), London Throat (9.30 A.M.), Cancer (2 P.M.), Throat, Golden-square (9.30 A.M.), Guy's (1.30 P.M.), Royal Ear (2 P.M.), Royal Orthopædic (3 P.M.), Children, Gt. Ormond-street (9.30 A.M., Dental, 2 P.M.).

THURSDAY (13th).—St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), University College (2 P.M.), Charing Cross (3 P.M.), St. George's (1 P.M.), London (2 P.M.), King's College (2 P.M.), Middlesex (1.30 P.M.), St. Mary's (2.30 P.M.), Soho-square (2 P.M.), North-West London (2 P.M.), Gt. Northern Central (Gynæcological, 2.30 P.M.), Metropolitan (2.30 P.M.), London Throat (9.30 A.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Throat, Golden-square (9.30 A.M.), Guy's (1.30 P.M.), Royal Orthopædic (9 A.M.), Royal Ear (2 P.M.), Children, Gt. Ormond-street (2.30 P.M.).

FRIDAY (14th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), Guy's (1.30 P.M.), Middlesex (1.30 P.M.), Charing Cross (3 P.M.), St. George's (1 P.M.), King's College (2 P.M.), St. Mary's (2 P.M.), Ophthalmic (10 A.M.), Cancer (2 P.M.), Chelsea (2 P.M.), Gt. Northern Central (2.30 P.M.), West London (2.30 P.M.), London Throat (9.30 A.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Throat, Golden-square (9.30 A.M.), City Orthopædic (2.30 P.M.), Soho-square (2 P.M.), Central London Throat and Ear (2 P.M.), Children, Gt. Ormond-street (9 A.M., Aural, 2 P.M.), St. Mark's (2.30 P.M.).

SATURDAY (15th).—Royal Free (9 A.M.), London (2 P.M.), Middlesex (1.30 P.M.), St. Thomas's (2 P.M.), University College (9.15 A.M.), Charing Cross (2 P.M.), St. George's (1 P.M.), St. Mary's (10 P.M.), Throat, Golden-square (9.30 A.M.), Guy's (1.30 P.M.), Children, Gt. Ormond-street (9.30 A.M.).

At the Royal Eye Hospital (2 P.M.), the Royal London Ophthalmic (10 A.M.), the Royal Westminster Ophthalmic (1.30 P.M.), and the Central London Ophthalmic Hospitals operations are performed daily.

SOCIETIES.

MONDAY (10th).—MEDICAL SOCIETY OF LONDON (11, Chandos-street, Cavendish-square, W.).—8.30 P.M.: Papers:—Sir Lauder Brunton: Hepatic Inadequacy in Relation to Gout and other Diseases.—Dr. W. Collier (Oxford): Functional Albuminuria in Athletes.

TUESDAY (11th).—ROYAL MEDICAL AND CHIRURGICAL SOCIETY (20, Hanover-square, W.).—8.30 P.M.: Adjourned Special Discussion on the Operative Treatment of Non-Malignant Ulcer of the Stomach and its Chief Complications, with Indications, Limitations, and Ultimate Results. Mr. G. Barling, Sir William Bennett, Dr. H. French, Mr. G. E. Gask, Mr. D'Arcy Power, and Dr. R. I. Spriggs will take part in the discussion.

WEDNESDAY (12th).—HUNTERIAN SOCIETY (London Institution, Finsbury-circus, E.C.).—8.30 P.M.: Discussion on Toxæmic Insanity (opened by Dr. K. Will, Dr. W. Rawes, and Dr. B. Pierce).

DERMATOLOGICAL SOCIETY OF LONDON (11, Chandos-street, Cavendish-square, W.).—5.15 P.M.: Meeting.

THURSDAY (13th).—BRITISH BALNEOLOGICAL AND CLIMATOLOGICAL SOCIETY (20, Hanover-square, W.).—5.15 P.M.: Adjourned General Meeting. 5.30 P.M.: Paper:—Dr. L. Williams: The Treatment of Gout by the Ingestion of Common-salt-containing Waters.

BRITISH GYNÆCOLOGICAL SOCIETY (20, Hanover-square, W.).—8 P.M.: Specimens will be shown by Dr. Aarons, Mr. J. F. Jordan, Dr. Swanton, and Mr. C. Ryall. Papers:—Dr. Hodgson: Cause of Fatal Collapse after Prolonged Abdominal Operations.—Dr. Macnaughton-Jones: Notes from the Clinics of Heidelberg and Freiburg.

OPHTHALMOLOGICAL SOCIETY OF THE UNITED KINGDOM (11, Chandos-street, Cavendish-square, W.).—8 P.M.: Card Specimens.—8.30 P.M.: Papers:—Mr. T. Collins: Adhesion of a Persistent Pupillary Membrane to the Cornea in the Eye of a Cat.—Mr. L. V. Cobbgrill and Mr. S. Mayou: A Flat Sarcoma of the Choroid.—Mr. C. B. Shaw: Perforating Wound of the Globe with Total Destruction of the Iris and Retention of Vision.

MEDICAL OFFICERS OF SCHOOLS' ASSOCIATION (11, Chandos-street, Cavendish-square, W.).—3.45 P.M. Paper:—Dr. R. Hill Crowley: The Need, Objects, and Method of the Medical Inspection of Primary Schools.

FRIDAY (14th).—WIMBLEDON AND DISTRICT MEDICAL SOCIETY (Worple Hall, Worple-road, Wimbledon).—9 P.M.: Dr. H. Spitta: The Tubercle Bacillus—a Few Points in its Life History; Some Remarks on "Opsonins" and Recent Methods of Treating Tuberculosis (with lantern slides and microscopic demonstration).

BRITISH ELECTROTHERAPEUTIC SOCIETY (Small Queen's Hall, Langham-place, W.).—12 noon: Exhibition of New Apparatus. 7.30 P.M. Annual Conversazione.

CLINICAL SOCIETY OF LONDON (20, Hanover-square, W.).—8.30 P.M.: Papers:—Mr. B. G. A. Moynihan: The Mimicry of Malignant Disease in the Large Intestine.—Mr. J. P. Roughton: A Case of Rupture of the Diaphragm.—Mr. J. Berry: A Case of Traumatic Hernia through the Diaphragm.

EPIDEMIOLOGICAL SOCIETY (11, Chandos-street, Cavendish-square, W.).—8.30 P.M. Paper:—Dr. C. Brown: On the Distribution and Nature of Sprue, with Notes on the Pathology of Intestinal Dyscrasiæ.

LECTURES, ADDRESSES, DEMONSTRATIONS, &c.

MONDAY (10th).—POST-GRADUATE COLLEGE (West London Hospital, Hammersmith road, W.).—12 noon: Pathological Demonstration:—Dr. G. C. Low. 2 P.M.: Medical and Surgical Clinics. 2.30 P.M.: X Rays. Operations. Mr. Dunn: Diseases of the Eye. 5 P.M.: Lecture:—Dental.

MEDICAL GRADUATES' COLLEGE AND POLYCLINIC (22, Chenies-street, W.C.).—4 P.M.: Dr. A. Whitfield: Clinique. (Skin.) 5.15 P.M.: Lecture:—Mr. J. E. Lane: The Prophylaxis of Venereal Diseases.

LONDON SCHOOL OF CLINICAL MEDICINE (Dreadnought Hospital, Greenwich).—2.30 P.M.: Operations. 2.30 P.M.: Sir D. Duckworth: Medicine. 3.15 P.M.: Mr. W. Turner: Surgery. 4 P.M.: Dr. StClair Thomson: Throat and Ear. Out-patient Demonstrations:—10 A.M.: Surgical and Medical. 12 noon: Ear and Throat.

TUESDAY (11th).—POST-GRADUATE COLLEGE (West London Hospital, Hammersmith-road, W.).—10 A.M.: Dr. M. Moullin: Gynæcology. 2 P.M.: Medical and Surgical Clinics. Dr. Ball: Diseases of the Throat, Nose, and Ear. 2.30 P.M.: X Rays. Operations. Dr. Abraham: Diseases of the Skin. 5 P.M.: Clinical Lecture:—Mr. Dunn.

MEDICAL GRADUATES' COLLEGE AND POLYCLINIC (22, Chenies-street, W.C.).—4 P.M.: Dr. G. Rankin: Clinique. (Medical.) 5.15 P.M.: Lecture:—Dr. J. Taylor: Ocular Symptoms in Nervous Diseases.

LONDON SCHOOL OF CLINICAL MEDICINE (Dreadnought Hospital, Greenwich).—2.30 P.M.: Operations. 2.30 P.M.: Dr. R. T. Hewlett: Medicine. 3.15 P.M.: Mr. Carless: Surgery. 4 P.M.: Mr. M. Morris: Diseases of the Skin. Out-patient Demonstrations:—10 A.M.: Surgical and Medical. 12 noon: Skin.

CHARING CROSS HOSPITAL.—4 P.M.: Mr. Forsyth: Demonstration (Medical). (Post-Graduate Course.)

CENTRAL LONDON OPHTHALMIC HOSPITAL (Gray's Inn-road, W.C.).—5 P.M.: Mr. Wells and Mr. Maclehose: Classes of Instruction in the Use of the Ophthalmoscope, with Demonstrations of Cases.

NORTH-EAST LONDON POST-GRADUATE COLLEGE (Tottenham Hospital, N.).—4.30 P.M.: Lecture:—Dr. R. M. Leslie: The Serum Treatment of Disease.

WEDNESDAY (12th).—ROYAL COLLEGE OF SURGEONS OF ENGLAND.—5 P.M. Bradshaw Lecture:—Mr. R. Owen: Cancer, its Treatment by Modern Methods.

POST-GRADUATE COLLEGE (West London Hospital, Hammersmith-road, W.).—10 A.M.: Dr. Ball: Diseases of the Throat, Nose, and Ear. Dr. Saunders: Diseases of Children. 2 P.M.: Medical and Surgical Clinics. 2.30 P.M.: X Rays. Operations. 5 P.M.: Lecture:—Dr. Beddard: Practical Medicine.

MEDICAL GRADUATES' COLLEGE AND POLYCLINIC (22, Chenies-street, W.C.).—4 P.M.: Mr. L. Cheatle: Clinique. (Surgical.) 5.15 P.M.: Lecture:—Mr. A. H. Tubby: Surgical Diseases of Children.

LONDON SCHOOL OF CLINICAL MEDICINE (Dreadnought Hospital, Greenwich).—2.30 P.M.: Operations. 2.30 P.M.: Dr. F. Taylor: Medicine. 3.30 P.M.: Mr. Cargill: Ophthalmology. Out-patient Demonstrations:—10 A.M.: Surgical and Medical. 11 A.M.: Eye.

CENTRAL LONDON THROAT AND EAR HOSPITAL (Gray's Inn-road, W.C.).—5 P.M.: Demonstration:—Dr. D. Grant: Case Taking.

ROYAL SANITARY INSTITUTE (Parkes Museum, Margaret-street, W.).—8 P.M.: Discussion on the Advantages and Disadvantages of Heating Buildings by Gas Stoves of Various Types (introduced by Dr. D. Kideal). Mr. T. W. Aldwinckle, Mr. F. W. Goodenough, Prof. H. R. Kenwood, Representatives of the South Metropolitan Gas Company, and Dr. L. C. Parkes, will take part in the discussion.

THURSDAY (13th).—POST-GRADUATE COLLEGE (West London Hospital, Hammersmith-road, W.).—2 P.M.: Medical and Surgical Clinics. 2.30 P.M.: X Rays. Operations. Dr. Dunn: Diseases of the Eye. 5 P.M.: Lecture:—Mr. Baldwin: Practical Surgery.

MEDICAL GRADUATES' COLLEGE AND POLYCLINIC (22, Chenies-street, W.C.).—4 P.M.: Mr. Hutchinson: Clinique. (Surgical.) 5.15 P.M.: Lecture: Dr. T. W. Eden: The Value of Local Treatment in the Initial Stages of Puerperal Infection.

LONDON SCHOOL OF CLINICAL MEDICINE (Dreadnought Hospital, Greenwich).—2.30 P.M.: Operations. 2.30 P.M.: Dr. G. Rankin: Medicine. 3.15 P.M.: Sir W. Bennett: Surgery. 4 P.M.: Mr. M. Davidson: Radiography. Out-patient Demonstrations:—10 A.M.: Surgical and Medical. 12 noon: Ear and Throat.

ST. JOHN'S HOSPITAL FOR DISEASES OF THE SKIN (Leicester-square, W.C.).—6 P.M.: Chesterfield Lecture:—Dr. M. Dockrell: Fungous Diseases of the Hair: III., Favus; IV., Leptothrix.

SAMARITAN FREE HOSPITAL FOR WOMEN (Marylebone-road, N.W.).—5 P.M.: Lecture:—Mr. Hicks: The Indications and Contra-indications for Uterine Curettage.

NORTH-EAST LONDON POST-GRADUATE COLLEGE (Tottenham Hospital, N.).—5 P.M.: Lecture: Mr. R. M. Leslie: Opsonins.

FRIDAY (14th).—POST-GRADUATE COLLEGE (West London Hospital, Hammersmith-road, W.).—10 A.M.: Dr. M. Moullin: Gynæcology. 2 P.M.: Medical and Surgical Clinics. Dr. Ball: Diseases of the Throat, Nose, and Ear. 2.30 P.M.: X Rays. Operations. Dr. Abraham: Diseases of the Skin. 5 P.M.: Lecture:—Mr. Bidwell: Hydatids of the Liver.

MEDICAL GRADUATES' COLLEGE AND POLYCLINIC (22, Chenies-street, W.C.).—4 P.M.: Mr. A. Lawson: Clinique. (Eye.)

LONDON SCHOOL OF CLINICAL MEDICINE (Dreadnought Hospital, Greenwich).—2.30 P.M.: Operations. 2.30 P.M.: Dr. R. Bradford: Medicine. 3.15 P.M.: Mr. McGavin: Surgery. Out-patient Demonstrations:—10 A.M.: Surgical and Medical. 12 noon: Skin.

SATURDAY (15th).—POST-GRADUATE COLLEGE (West London Hospital, Hammersmith-road, W.).—10 A.M.: Dr. Ball: Diseases of the Throat, Nose, and Ear. 2 P.M.: Medical and Surgical Clinics. 2.30 P.M.: X Rays. Operations.

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